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THE FEATURE GARDEN

By the same author

BY SAINT PHOCAS!
PUREST PLEASURE
FLETCHER'S FOLLY
THE GARDENER'S POCKET COMPANION
THE WATER GARDEN
GARDENING ON A SHOESTRING

HEREFORDSHIRE (County Books)
THE QUEEN'S WALES



‘There’s no need to get them all at once.’

The Feature Garden

H. L. V. FLETCHER

WITH 24 PHOTOGRAPHS
AND 14 LINE DRAWINGS



CHARLES T. BRANFORD COMPANY
Newton 59, Massachusetts

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In the sections on Pools and Bog Gardens I have used material from my own book, *The Water Garden*, which is now out of print.

1. Introductory

THE MOST boring garden I think I ever saw had nothing in it but flowers. There were more flowers to the square yard than in any garden I had ever been in, or have ever been in since; it was literally—may the oft-repeated *cliché* be forgiven, but there really is no other phrase for it—a blaze of colour.

It was rectangular in shape, a longish oblong, and it was divided into a smaller host of oblongs, two to the width of the garden and a great many to the length of it; between the beds were gravel paths.

Every bed was methodically regimented with plants, a different plant to each bed, and the lot of them—I don't know quite how—were in full bloom. Some were perennials, some annuals, some half-hardy, such as stocks and asters, raised in the small greenhouse in the corner which was the only thing in the garden that stood above the height of the flower beds. The plants were all in excellent health and the blooms were magnificent.

The owner was a nice chap. He was proud of his garden, anxious to show it, anxious that it should be liked. He had obviously worked, and in terms of colour he had worked to good effect. Yet there was an uncertainty in his air, as if he suspected that something was lacking. And, though not for worlds would I have told him so, I *knew* something was lacking. I couldn't, at first, quite make out what it was. He couldn't say, 'You ought to have seen

this last week', or, 'You ought to see this next week'. Everything was just right. He had a show a park superintendent might have envied.

It was not until I was in my own far from perfect garden again that I understood what was the matter. I hadn't got stuff as good, but the atmosphere was right. Across my garden, which sloped sharply to the sun, there was a dry-wall, and in the middle of the wall was a wide flight of stone steps with a bird-bath on one of them. I used to sit on those steps to have a look round.

It was while I sat there that I realized what had been wrong. That garden I'd seen had had nothing in it but flowers.

A garden is a place in which to grow plants. That is the plain statement of fact and it is the truth. But most truths need a little qualifying. The qualifying in the case of gardens is best made by some sort of ornamentation. The garden must have something as well as flowers in it. It needs a foil to set things off. It needs, as that flower patch I could not wholly admire needed, something besides the flowers to catch the eye, to break lines up, to divert, to distract. Ornaments, pure and simple, can do this, or, better still, because the word can cover a much wider field, features can do it. The label 'feature' can cover almost anything; it may be ornament pure and simple: the sundial, the bird-bath, the statue or seat at the far end of a path, the vases standing sentinel on a flight of steps; or it can be dependent on growing things like a rock bank, or a pool, or it can be a living thing such as a yew or holly hedge.

There is, of course, nothing original in the idea. For thousands of years, indeed for as long as there has been any record of gardens, the best of them have been notable for their features. This is understandable, since the most

famous ones have been the largest ones and the largest ones lend themselves to ornamentation. And that goes back beyond anything in European historical records, or the pleasure grounds of any English country mansion.

In Baghdad, in ancient times, there was a garden that contained a tree made of silver and gold. Its fruits were jewels and in the branches were gold and silver birds that sang when the breeze stirred them. The tree stood in a pool, and on either side were fifteen mounted toy knights, and by some clever mechanism they could be made to advance and retreat in line.

The court of the garden of King Ahasuerus 'which reigned from India even to Ethiopia', is described briefly, yet vividly, in one of the world's earliest Cinderella stories, that love story of a king and a Jewish girl, the Book of Esther in the Bible. In the court were 'white, green, and blue hangings, fastened with cords of fine linen and purple and silver rings and pillars of marble; the beds were of gold and silver, upon a pavement of red, and blue, and white, and black marble.'

No doubt they grew everything under the sun, grapes and pomegranates and figs and the most exotic blossoms of the east, but those don't get even a mention. The accent is all on the decorations.

So it went on down the ages. Cicero wrote to his friend Atticus to send him some ornaments 'if you can find any suitable for this garden which is so familiar to you'. The Pompeian frescoes show gardens adorned with fountains and vases. The statues that stood in gardens of ancient Greece and Rome were the work of the greatest artists of the times. Italian gardens were noted, among other features, for fountains, not always fountains as we know them, but well-heads and pools at different levels with descending spouts of water. The grounds at Versailles can

still be seen, and in the Louvre are the immense statues of Louis XIV's gardens, such as the Perseus and the Andromeda, which must have looked magnificent in their proper settings.

Fountains were always popular. It is a taste understandable in hot countries where the sun shines for months on end. Anybody who has enjoyed blazing sunshine over a long period knows the fascination of the musical sound of falling water. But even in England, too, where the lack of moisture is one of our less frequent curses, they were enjoyed. Today, ornate fountains, say on the scale of those in Trafalgar Square, are few and not in use overmuch, but our ancestors went to considerable pains to throw water about in an elegant and impressive manner. The fashion came to its full strength in the first Elizabethan era (domestic arts developed rapidly with the end of the civil strife of the Wars of the Roses) and no doubt owed much to Italian influence and models. About this time there is described somewhere (I am not sure if it is fact or fiction) an enormous dragon from whose three heads of solid gold, water spouted into a silver pool.

Hampton Court, Whitehall, and Nonsuch all had fountains of renown. Those at Nonsuch were in the form of birds, and it also had one showing all the characters of the story of Actaeon being turned into a stag by Diana and being destroyed by his own hounds. Elizabeth I's Tudor sense of humour found its outlet in one at Hampton made to her order. According to a Duke of Wurtemberg, who saw it in 1592, it had mechanism, 'by which you can make the water to play upon the others who are standing by and give them a thorough wetting'.

Pools were almost as popular. They started first, very likely, as a development of the castle moat and the monastic fishpond. In one of the earliest do-it-yourself

volumes, *Book for to lerne a man to be wyse in buylding of his house* by Andrew Boorde (published about 1500) we are told that a garden should have 'a poole or two for fyssh if the pooles be clene kept'.

Here and there some of these early fish pools still exist. One of the loveliest, if not the largest, lies in the peaceful setting of the garden of the Master of St Cross Hospital at Winchester. Now a beautiful water garden, it was once the fishpond of the Brothers of the Hospital.

Many fine fountains and pools were lost when the landscape school, with Capability Brown as its high priest, became popular, for they abhorred anything that was not natural. Whatever they thought savoured of romantic artificiality they destroyed or altered. It was through their influence that the pools in Hyde Park were, at Queen Caroline's orders, joined to make the Serpentine.

It was not only water that was used to decorate gardens and make them interesting. Hampton Court possessed an enormous collection of heraldic animals. One craftsman alone made a hundred and fifty-nine, and there is still a record of the payments made to him. There were more than thirty of them at Whitehall. The fashion for these figures—it was almost a craze—was as popular in France and Italy.

Statuary always has been a feature of great gardens, though Bacon dismissed such vanities scornfully: 'great Princes sometimes add statues and such things for state and magnificence, but nothing to the true pleasure of a garden.'

Ornaments in lead became popular in the eighteenth century, and one of the best-known artists in that material was Jan van Nost. Some examples of his work still remain at Wilton, Melbourne in Derbyshire, and Hampton Court. Lead cisterns exist in many places and they are nearly all

old. At Courtfield, near Ross-on-Wye, there is one with a reminder of a centuries-old bit of family history. A nurse had left a baby on a lawn one day and came back to find a snake twined round him. Instead of panicking she fetched a saucer of bread and milk which she placed a little distance away. The snake left the child for the bread and milk and the woman killed it. Standing on the cistern, in which grows a healthy Japonica (or *Chenomeles*, if you prefer it) is a lead figure of the baby (an ancestor of the present owner of the house) snake and all.

Dovecotes originally were for use, not ornament. The birds supplied a welcome change of diet in days when salt meat, and often not very good salt meat, was the staple food of the well-to-do through the winter. Only propertied people were by law allowed to own dovecotes. The best examples of old one are larger than some houses. A very large one (if it still stands) near Shrewsbury has 650 holes for nests. Herefordshire has some fine examples, there is a lovely black-and-white example at Luntley Court, near Weobley, and there are many to be found at old country houses all over England.

Sundials have always been popular and many ancient examples are still in existence, some, like Charles Turnbull's sixteenth-century one at Corpus Christi College, Oxford, being very ornate. Another is Wren's at All Souls. Sundials were good enough time-keepers for ages that did not set too high a value on time, but they are for ornament rather than use now. There was once a fashion for growing living ones out of plants such as box or thyme.

And so one could continue. A garden is the place one grows plants, yet it is something more. It is an extension of the house, a playground, an outside room that must be furnished, which in some ages and in some places has been furnished as ornately, as expensively, as any part of the



i. (*above*) Old stone sink as a pool in the rock garden.
(*below*) A formal pool made of concrete.





ii. Pool made of polythene.

dwelling itself. There may be one object to be a centre of interest; there may be a dozen. It may be something such as a seat, for use, or a statue, purely for ornament. It may be in stone or iron or lead, or it may be a living feature like John Evelyn's incomparable holly hedge at Says Court.

The spacious gardens, ornamented with magnificent features, minor works of art constructed at enormous expense, have gone and, though it is unsafe to prophesy about garden fashion, have probably gone for ever. We can see them at Versailles, at Hampton Court; at a score of French châteaux or English country mansions, but they arouse admiration rather than envy. They are interesting to look at, but few gardeners could say, hand on heart, that he wished they were his. The great landowner no longer wants acres of gardens too large to know, and nobody has stepped in to take his place. Gardening to our grandparents, whether they owned the gardens, or worked in them, was a craft that demanded unremitting toil from a few gardeners, or from scores, or from hundreds. Leaving aside the exceptions, those days are over. No more parterres, no more mazes or labyrinths, no artificial temples or grottoes, no gazebos, no gateways, no lakes or waterfalls, no private (and salaried) hermits. Gardening has become an intimate art. And the ornamentation has become intimate, too. We want a place we can look after ourselves (many of us, indeed, could afford no other) and ornaments we can make for ourselves.

It seems that in our gardens we are coming towards that simplicity *'when every man shall sit under his own vine and under his own fig tree and none shall make him afraid'*.

2. Garden Designing

THE DESIGNING of the garden does not worry most of us for the simple reason that, since we generally take over a house that someone else has lived in, the job has been done already. Or, it would be more accurate to say, it has not been done already; for most gardens, like Topsy, just grewed. One thing gets stuck in here, another there, a third in the only place fit to receive it; a few paths seem to come into being without any good reason other than a desire to walk round rather than over a heap of builder's rubble, and then, later, a piece of ground has become the garden—a rather awkward frame that will be filled in as best may be, and which, because all growing things are beautiful at some time or other, will not as a rule be as bad as might be expected.

New houses should always have their gardens carefully planned. It is folly to spend thousands of pounds on a house and then allow the setting in which it is to stand to arrive by chance. It is not enough to be aware of difficulties and sidestep them or jump over them. The designing of gardens is a craft, maybe an art, and there are people who have spent years learning it (whichever it is). If it is at all possible it is well worth while consulting and employing one of these experts. Their training has taught them to avoid the snags; they are aware of the pitfalls and can not only dodge them, but can dodge them gracefully.

But there are many people who, for one reason or

another, will, or must, design their own gardens, and it is with them in mind that this chapter is written. Though it is not possible in so short a space to show anyone how to ensure a satisfactory garden, a few simple hints may be helpful.

The first essential is to have a plan. Make a generous one, as large as may be, and make it to scale. On it, if the garden is still virgin ground, draw the outline of your house, and mark in the compass points which will give you the aspect and hence that most important commodity, the sunshine. Draw in also in some convenient way, if you like in the form of one of those puffing cherubs you see on old maps, something that will keep any strong prevailing winds continually in mind as you plan.

That is most important. There are a lot of conditions that disagree with plants; after a lot of experience I am beginning to think the one they cannot stand at any price, and under which they will never thrive, is a constant wind. You have only to look at seaside plants to see what I mean. In some sheltered spots they come to no harm, but on exposed cliffs the sturdiest forest trees can never get to be larger than saplings and then are as twisted, gnarled and bent and compressed as if some enormous animal had leaned against them. Avoid draughts in your garden as you would avoid them in your house, and guard against them with generous windbreaks.

Most houses are not sufficiently in any particular style to call for any particular type of garden, but if your house is in any way out of the usual try to harmonize the layout of the garden with it. Roughly that means that the traditional English cottage garden would not go well with an ultra-modern erection of steel and plate glass, while a greystone Cotswold cottage might not harmonize with a garden in which cement was used widely.

In the same way aim at harmony between house and ornaments. There are houses against which a summer house of rustic work would not look odd, and there are some against which it would. A traditional sundial will blend into certain surroundings, not into others; the same goes for such features as bird-baths and bird-tables and vases. If these are to be bought—however desirable they may be in themselves—they must be considered very carefully indeed in relation to their proposed surroundings.

Here a word about design in the ornaments may not be amiss. To be on the safe side aim always at simplicity, absence of fussiness, and shapes that are simple and basic.

A very important point to consider is what the owner of the house is going to see when he looks out of the windows—not forgetting that some windows are upstairs.

In some settings there is nothing one need do about this. If your windows have uninterrupted views of a river, the sea, or some mountains it will only be necessary to make sure that nothing is going to block these out. On the other hand, if your outlook is the backs of other people's houses, or the gasworks, or an ugly power station, then you should be able to do something about it by the skilful use of screens, shrubs, and trees.

This brings up another point. If you are planting trees do not, unless you have very good reason to want them there, have them anywhere near the house. They will make it gloomy and dark and for most of the year hide the rest of the garden. They will also, a point often missed, be noisy. The wind in distant trees can be a lovely sound; close at hand it is a roar and, if you are wondering if a tree is going to fall on the house, an unnerving one as well. No, near the house have the smaller features, the paved patio or courtyard, the rock garden, the lawn, the beds of low-growing flowers. There is no need to grade every-

thing stiffly so that there is a constantly ascending line from house to furthest point, but plan generally so that the tallest things are furthest away. There may be a courtyard or loggia round the house, then somewhere not too far away a rock garden. The eye could flow over a lawn to some focal point, a sundial, a bird-bath, a dovecot. Then perhaps rosebeds and herbaceous borders. Unless you really enjoy seeing vegetables as part of the plan, keep the vegetable garden away from the rest, separated by a hedge perhaps, with a portion allotted to a plantation of soft fruits—always remembering of course that women prefer not to have to walk miles to gather fresh vegetables. Then could come shrubs, an orchard, then the taller trees.

No garden, even the smallest, should be all in view at the same time. Keep something of interest in reserve even if it is no more than a tiny lily pool in an unexpected corner. Avoid fussiness—there is no need to have a bit of *everything* in *every* garden, and small gardens are better restricted to a few departments than divided among everything that grows. Simplicity again. Simplicity is the keynote whatever the garden's size, for out of simplicity is born restfulness and the garden that is not restful has nothing.

Paths are very important. In fact, with the unmade garden a skeleton of paths is no bad framework to build on. Every path should have a purpose. It should lead somewhere, if only to a well-sited seat. And the places where paths converge, or where they end, are often the spots where some feature in stone or lead or cement will look just right.

It does not matter whether paths are straight or curved, but if they curve the curves must have some purpose. They might for instance swerve round a spreading mass of lavender, or a lovely shrub, but never merely to avoid

the straight line. Straight paths can, of course, be very satisfactory, especially if they lead somewhere. Never have a path that peters out in nothing or a dead-end. Display something. One of the best examples of this type of path can be seen in the gardens of the Royal Horticultural Society at Wisley. It is a wide grass path on which a dozen people could walk side by side, and it runs between two enormous herbaceous borders. We can few of us afford space on this scale but the idea will work as happily in smaller proportions.

The material of which paths are to be made should receive careful thought, for the best paths are important and often impressive garden features in themselves. Earth alleyways are all right between beds of vegetables, but they will hardly do anywhere else. The cottager of earlier days improved on them by putting down flat stepping-stones, and in large beds these still have their use. When the stones became more in number and closer together we got the original crazy paving, which, set firmly in sand, ashes, or fine earth, still makes an excellent path, and a decorative one as well. Since weeds (as well as other plants) grow in the crannies between the stones it is often worth cementing these spaces.

Where flat stones are hard to come by, the pitched or cobbled path was developed. This consists of small irregular stones (the chunky flints of Hampshire are grand for the purpose) hammered into the ground close together to form a (nearly) level surface. This is a very ancient form of flooring, as old as the Romans at least, and has been used in houses. In some parts of the country men became skilful at doing the work in various geometrical patterns. In the farms of my Pembrokeshire childhood most of the yards had pitched surfaces and so had the stables and cowsheds. They were made (and I am sure a

lot still exist) of flat, rounded stones from the seashore. The stones were about saucer size and were laid on edge. It sounds a slippery surface for animals to work on, but I do not think it could have been; at least, I cannot remember ever hearing of a horse that fell down.

Pitched paths again, to save weeding, can be cemented between the stones. That brings us to the cement path, pure and simple, which is more clean and efficient than beautiful. The most satisfactory paths in cement are made from concrete slabs. For some reason the broken area is pleasanter to look on than the unbroken one of the plain cement path. These paths will be dealt with in a later chapter.

Grass paths are beautiful, perhaps the most beautiful of all, but they will not look better for too much walking on, especially in bad weather, and they have to be mowed regularly.

Asphalt is now sold in forms that any amateur can lay but it is more suited to the garage drive and kitchen walks than, say, the paths between rosebeds.

My own paths are spread with chippings. They were made when I came to my garden and I have left them alone. They are pleasant to walk on, but they have one great disadvantage. Weeds grow in them. I keep these down by watering with a sodium chlorate solution. But I have to do it fairly often.

Paths are seldom as wide as they should be. This is because we never have enough room to grow all we want to grow, and since we seldom think of the paths as part of the garden it is from them that we steal when we want a little more space. Ideally, a path should take, at the very least, two people comfortably, side by side, and if it will take more, so much the better. Some day we shall wake up to the fact that the path is not merely something

obtruding in the garden, but actually a part of it and we shall plan with that in mind, and very much better our gardens will look in consequence.

It might be thought a small garden is easier to design than a large one, but that is not always, or even often, the case. In the small gardens your mistakes will always face you. You cannot camouflage a particularly bad bit with a lovely group of shrubs; there will be no escaping it. The moral is obvious; the smaller the garden the more care you must take over the plan.

The majority of gardens attached to small houses are oblong in shape. It can be taken as a very general, rough-and-ready rule that most people will want to accentuate the length. If you wish to do that you must arrange any features of length, a herbaceous border, a rock bank, a ribbon of shrubs, running away from the house. In this way the illusion of length will be created. Borders and so forth that run across the width of a garden will break it up and make it appear less long.

We still do not seem to have progressed very far with the plan mentioned some pages back, but as the various important principles have now been considered we can study it again. And really there is not very much more to say about it. Decide what you want in your garden, lawn, borders, rockery, shrubbery, pool, bog garden, whatever you fancy, and, bearing in mind how they will best fit in, and after the usual trial and error shifting, decide on their sites and draw them in.

The fact that you cannot draw does not matter in the least. Your shrubs can be scribbles, your herbaceous borders criss-cross lines, your rockeries oblongs full of triangles to represent rocks and plants. A box of coloured pencils or crayons can make the job more interesting, but do not expect the first attempt to be the final one. A bit

of garden planning should result in a fine heap of spoiled paper, as well as in a good final plan.

There is an alternative to drawing a plan that will appeal to a few gardeners who are clever with their fingers, and that is to make a model of the garden. This can be done on a large sheet of plywood or hardboard, and when the modelled house is in place the different features can be filled in in coloured clays or modelling wax, though there are other media. Very attractive and exciting ideas can be worked out in this way, and provided the model-maker does not expect the reality to be too exactly like the plan, it is perhaps the best way of working out what your garden should eventually look like.

While on the question of colour here is an important suggestion. Unless you are really pressed for room do be generous with your colour in the garden itself. Plant (and plan to plant) never in single specimens, which in most gardens will appear withdrawn and insignificant, but in groups, and good-sized groups at that, which will give wide areas of colour.

Another point about colours is to keep the quietest shades near the house, the windows, the loggia, or whatever the principal viewpoint will be. Use the strongest colours at a distance and in this way they will always look their best as well as serving as a focal point to draw the eye along the length of, say, a herbaceous border.

The same principle holds good for larger subjects, too. A flaming sumach on an early autumn day would be right out of focus against the front porch. Seen a hundred feet away, perhaps against a few evergreens, it will catch the eye so that one seems to be enjoying the whole garden at once.

Occasionally we are left with a garden of an awkward shape, an uneven triangle, it might be, or even something

much worse. In this case the first thing is to plan in the ungainly angles with especial care. It is no use trying to thrust them out of sight. Arrange something especially good for them: it might be a single magnolia tree, it might be a seat, it might be a carefully chosen statue. It can be anything that is unusual, attractive, and beautiful. And at the same time let these arrangements help to get the rest of the garden into a more manageable shape.

With old gardens it is another matter, and often a much more difficult one. Here the picture has been painted, and it is very rarely indeed that the new owner does not want to move the colours about a bit. To do the whole thing in one mighty effort is more than most of us can face. The only thing to do—and all my own gardens have been gardens already when I set foot in them—is to alter by degrees. Give it a season to see how it appears at its best. Decide what is to be altered, and—rather important where there are shrubs and trees—what can be moved, then proceed to the improvements (the last owner would call them by another name) a little at a time. A rosebed made here one autumn; a group of shrubs moved somewhere else during a fine winter spell; a rock garden pulled to pieces and rebuilt later—and so on.

Occasionally some permanent feature will defy all one's ingenuity. Plantations of trees, for instance, where you feel there should be no trees. In a case of that sort you have to be like Pharaoh and harden your heart. This is not advice to cut down the trees in your garden, but if they are wrong for you they are wrong. Get rid of them. And get rid of any other feature that irritates you. You can plant more trees; you can introduce new features. After all, it is *your* garden.

3. Pools

MOST PEOPLE find water fascinating. They head for the sea, the river, or the lake as lemmings trek westward. There is some subtle link between us and water that, magnet-like, draws us together. If what the scientists say is true we came from it; we have not completely grown away. We keep going back. A few get over the urge but nine-tenths of us, at a rough guess, never do. From childhood to old age we want to be in the water or on it, playing with it, dabbling our feet and hands in it, Narcissus-like, staring into it, even, with mask and flippers, trying to pretend we belong to it.

A hole in the ground is a hole in the ground, but if it contains water it becomes, large or small, a pond or a pool or a lake. And whether it is small or large it can be one of the loveliest features any garden can possess.

Once it is made and planted, and once it has lost its newness, the pool is probably the least troublesome part of any garden. It is, like anything else, all the better for a little attention now and then, but, provided it has been planted with caution (not, for instance, stocked with aquatics that grow too rampantly) it is quite capable of going on for many years without any care at all. It needs no weeding, no hoeing, no trimming or staking or watering, and the nice part is that it very seldom manages to look neglected. It comes as near being a natural garden as any garden tended by the hand of man can ever be.

One reason why this is so is because most of our water plants are wild plants. Some of the finest water lilies (or *Nymphaeas*) are hybrids, bred by men, and a lot of irises that find a home by the water or in it have been improved by careful selection. But the rest of the aquatics are, frankly, weeds. Very nice weeds, but still weeds. And weeds can look after themselves.

In the water the plants' struggle for existence is not as fierce as it is on land. They have fewer natural enemies and very little disease. There are aphids and caddis flies and water snails, but the first two are eaten by fish, so if you have fish you don't have to worry much. Water snails are not the menace their terrestrial relations are; in fact, they are almost necessary to the health of the pool.

The water garden knows nothing of starvation or drought and is as indifferent to wet weather. Natural pools have plenty of food always available; a constructed pool must have its first soil put in, but the supply is kept up by decaying vegetation as well as by the constant death of floating organic life called plankton. Since water is a solvent, food is always present in the pool in solution. The plants are well supplied in all their parts with air passages and air cells.

The life cycle in the pool is a fairly simple natural process. Aquatic plants absorb the carbon dioxide given off by decaying vegetation and by fish. The carbon is used in the growing plant and oxygen is released. This is used by fish and probably by other life in the pool. Also some oxygen from the air is absorbed at the surface and held in solution. These processes go on in sunlight and if there is much sunlight, as there begins to be in spring, microscopic plants called algae begin to grow. These are green and cause the discolouration of water which worries new pond-keepers so desperately each year. But algae are

excellent oxygenators and if they are left alone they strike a balance with conditions unfavourable to their growth, as well as providing food for such creatures as snails, water fleas, tadpoles and fish.

Provided a pool has a balanced selection of life, plant and animal, the water in time will clear naturally. Never use chemicals to accelerate what Nature is doing at her own speed. Once a pool has reached a natural balance it can be left to look after itself for a very long time.

One last point worth mentioning is cost of upkeep, a very important consideration in these days when garden help is so expensive. The cost of running a water garden (unless you want to buy new plants and new fish periodically) is nothing. Once a water garden has been made and stocked it can look after itself. The cost is the initial expense and if the gardener chooses that can be the only one.

TUBS

The simplest pool anyone can have is a tub. The tub can be made from a barrel sawn in half. It can be sunk in the ground to its rim, some good compost put in the bottom, a water lily planted in the compost, and the tub filled with water. This type of pool is suitable for a very small garden, the owner of which greatly wants a water lily. Carefully placed, a small tub pool can look charming.

I have been told (I have never had such a pool myself) that a tub treated in this way would be water-tight without any treatment to make it so. Knowing how readily water can escape even from the most carefully constructed pools I think I should ensure against leakage by painting the inside with a coat or two of bitumastic paint.

I do not think there is much point in using any fancy coloured paint for painting the insides of receptacles to

be used as pools. In theory a green or a glistening white pool should look charming, but on such a surface slime and algae and rotting weeds will show up terribly. Better a clean-looking drab colour than a pretty one that looks dirty.

The site for a tub should be chosen with great care, and it ought to be in surroundings that will not clash with the water lily, or whatever aquatic plants are growing in it. It should look like a little pool and not like half a barrel. It is not sound artistic practice, I know, to make one material look like another, but this is a case where one might compromise with artistic principles. What seems of primary importance is that nothing should distract from the water or from the plants growing in the water.

STONE SINKS AS POOLS

There are other receptacles that can be used to hold water and grow a water plant in, but they should be chosen cautiously.

(Here perhaps it would be a good place to mention that water lilies are obtainable that will grow in almost any depth of water. The smallest need only a few inches and the largest several feet.)

Among the most popular containers are probably old sinks and water troughs. These are of two kinds, those made of some kind of stone (sandstone usually) and glazed ones. The first are fairly easy to fit into any garden; the second are most difficult. For some reason an old glazed kitchen sink always looks like an old glazed kitchen sink, and neither water lily nor sportive goldfish seem able to hide the fact. If you have one of these sinks and want to use it the best plan is to disguise it in some way. This is sailing under false colours again, but it is the only thing

to do if you don't want *every* visitor remarking in a loud voice: 'Ah, you've used an old sink, I see.' It wouldn't matter their saying so if the thing looked right, but really it won't; it never does. You can paint it and, after sinking its edge to ground level, put rocks or paving slabs over the rim, or another method is to hide the glaze with a thin covering of concrete.

Stone sinks are quite a different matter. For one thing they are much more difficult to obtain, because for years gardeners have been using them to grow the smaller and choicer alpiners in. Whereas thirty years ago you could get discarded ones from scores of farmyards merely for the trouble of carrying them home (they are terribly heavy, by the way) today they have all been snapped up, and when you can buy one it is likely to cost you a mint of money.

A stone sink or water trough will make an excellent tiny pool. (There is one illustrated in Pl. I.) It will not need glazing or painting or altering in any way, though if it has a drainage hole that, of course, will have to be plugged and made watertight. Because of the weight of such a receptacle it will be wise to choose its site with great care, since you will not want to move it often from place to place. A sink pool associates well with rock plants, though care must be taken that it does not look incongruous in its setting of rocks. Think of it rather as a lake among them, not tiny in relation to its surroundings, and you will not go far wrong. If it can be contrived in a natural-looking way that a little trickle of water runs into it and another out of it that should improve the effect, though it must be pointed out that water lilies are better suited in still water than in a stream.

I don't know if it would be easy to hew a sink out of a piece of stone; I don't even know where you could get the

stone. It would certainly have to be soft stone. But you can make substitutes for stone sinks from cement. Two boxes are all one wants by way of equipment—and cement, naturally, the making of which will be dealt with in Chapter 12.

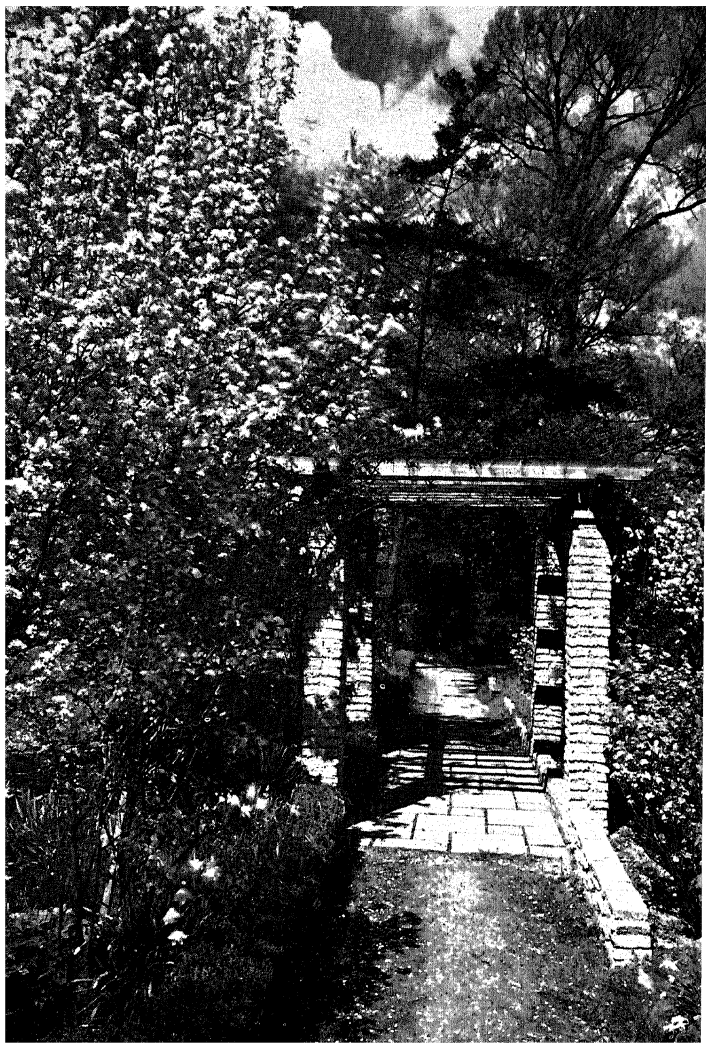
The two boxes must be of different sizes, one fitting loosely inside the other. First a layer of cement is laid on the floor of the larger box. Then the smaller box is placed inside the larger one. Its base will rest on the cement. Now fill the spaces between the walls of the boxes with the concrete, making sure that no air spaces are left. When the concrete is dry enough the inner box is pulled out, and then the outer one removed. You are left with a box of concrete, rather raw-looking compared with the average old stone sink. As a matter of fact the newness soon wears off and the concrete will weather to quite a pleasing shade.

The making of such a little sink to grow a water plant in sounds very simple, and indeed it is, but two points are worthy of note. In the first place the difference in size between the two boxes should be quite considerable. The greater the difference the thicker the wall will be and the stronger the finished structure. If it is to be more than a few feet each way it will be a good idea to put some rods of iron, or crushed wire netting, in with the concrete to reinforce it.

The other point is that it may be difficult to get the boxes away from the concrete. Something that will prevent the concrete sticking to the wood will prevent splintered boxes, broken concrete, and some disappointment. Coarse grease is sometimes smeared on the wood to prevent it sticking, or soft soap can be used. If a number of sinks are to be made it will be worth screwing the boxes together and unscrewing them in order to remove them.



iii. The path through the orchard.



iv. Pergola made of concrete.

METAL POOLS

Small pools can be made of metal. Philip Miller, author of a very popular eighteenth-century gardening book called *The Dictionary of Gardening*, wrote of having seen aquatic plants growing in lead-lined troughs. Lead is probably the best metal of which one could make such things, because it will never rust, but it is very heavy, and, because they are period pieces, the troughs are expensive. They would not have to be sunk into the soil, because they generally have some decorative features of their own.

To come down to simpler metals (which means much cheaper ones) there are galvanized tanks which can often be picked up for next to nothing in builders' yards and such-like places. These tanks, sunk to the rim, and surrounded with paving stones or small plants, or even edged with grass, make excellent receptacles for a small water lily or two. Since the galvanized coating wears away in time it is as well to paint both inside and out with bitumastic paint before sinking it into the ground.

POLYTHENE

It is now possible to buy pre-fabricated pools of hard synthetic plastic materials. These should prove quite satisfactory and would only need putting in place and stocking with plants. They would probably be limited in size, though there seems no reason why larger ones should not be made in sections, bolted together, and waterproofed with a material such as Bostik. Rubber, I know, has been used for pools in America, but this kind had only a limited life and they were sold as such.

The simplest pool I have ever seen was made of poly-

thene sheeting. Apart from the excavating of soil it was made, literally, in a matter of hours.

A large shallow hole was dug in one corner of a sunny lawn. The soil was smoothed and rammed hard and then covered with straw. Any similar material would do as long as it made a sort of cushion. On this cushion was laid ordinary polythene sheeting of the heaviest grade. As it was not wide enough to cover the excavation it was laid in strips which were sealed along the edges with Bostik. A ring of turf was lifted all around the hole and the edge of the polythene laid on the soil left bare. Then the turf was replaced. Soil was put in the pool and it was filled with water. When I saw it a few months later water plants were growing in it with great vigour, and half a dozen goldfish were already learning to eat from their owner's hand.

This pool (Pl. II) was a first attempt and it was largely experimental. The water level used to fall slightly, so perhaps the seams had not been made completely waterproof, though as there was no rain for several months, most, or even all of the loss may have been due to evaporation. I do not know that a pool of this sort would last many years. Perhaps it would, but I do not think so; no doubt it can be improved on. Polythene would be, I imagine, most successful in the making of small pools. A series at different levels in a rock garden might be made in this way. It is perhaps the best method available of making a pool cheaply and quickly.

4. Informal Concrete Pools

MANY GARDENERS want a larger, more permanent pool than any described in the last section. If it is to be of any size it will have to be made of concrete. That is the only available material for making large pools, and luckily it has nearly every virtue and hardly a single vice.

People who would really love to grow water lilies are sometimes discouraged by the amount of work that seems to be needed to build a formal pool. By a formal pool is meant a rectangular, or sometimes circular, box-shaped tank, often paved round the edge; clean, neat, geometrical. That is the type that comes most readily to mind when you think of a water-lily pool. Instructions for making one of this kind will be given fully in the next section.

But it is very probable that this conventional type of pool has done much to discourage water gardening. In spite of its simplicity of design and pleasing appearance when finished, a lot of people fear the making will be too much bother. They are not certain that they can excavate with anything like precision. Unless they are skilled carpenters they think they will not be able to manage the shuttering, as the woodwork is called; if they can make the woodwork they are afraid they will get into difficulties with the walls. So they decide against a pool.

What a pity! There is no need at all to make a rectangular pool with straight sides and a level floor, like a swimming bath. There are designs much easier than the box-shaped tank, and they are just as good for growing

water plants, and look equally attractive when finished.

They can be irregular in shape, or rectangular. In either case they can be surrounded by slabs as an edging, have a paved court as a surround, or be completed in any way that will give the neat, formal appearance so often associated with the title Lily Pool. Not their least advantage is that no woodwork at all is used in making them.

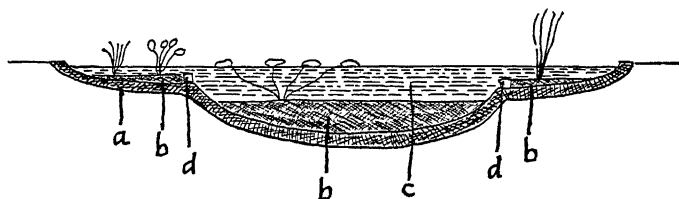


FIG. 1. *Section of informal concrete pool. a) concrete; b) soil; c) water; d) low wall of concrete or stone.*

There is no accepted title for such pools, but the label I have always used myself is the Informal Pool. In section it is made on the soup-plate pattern, as shown in Fig. 1. Plants needing deep water can be planted in the middle and those that grow in shallow water, round the edge. The soil required by the latter can be held in by a rim of stones. It is a good idea to have a sharp turn-up of concrete at the edge and then there will not be any part inaccessible to fish, where such pests as mosquitoes can breed without danger to their larvae. On the other hand, if many fish are kept and are required to breed it is an advantage to have some parts where the adult fish cannot reach their fry, because if they do they eat them.

The site for the pool is rather important. Any water where water lilies are to grow should be in full sun. In Continental and American books positions in semi-shade

are sometimes advised, but they are not suitable in this country.

Most plants harmonize well with water; that is to say, flower beds and borders may be planned in the vicinity of the pool, though they should not approach it too closely. Trees and shrubs also go well with water, but they should be on its north and north-east, where they will form a windbreak against the coldest winds, and, except in the case of large sheets of water, they should be at a fair distance from it. Caution and restraint are needed if the trees are planted after the pool is made. One forgets how quickly trees can grow and how far they will spread. I had this brought home to me forcibly when, after making my first pool, I pushed a shoot of willow into the ground at such a distance from the water that I hoped the resulting tree would be able to peer cautiously over the margin. In a few years' time the willow covered half the pool like an umbrella, and had to be pollarded. In the vicinity of natural pools (where no concrete basins are used) growth is generally much more luxuriant than in other situations, because the vegetation never suffers from drought.

It is a good thing to make the pool in a part of the garden where it is in view from a number of other and usually higher points. This does not mean that it should be at the lowest level of the garden. It is best to make arrangements for draining a pool when it is being constructed, and drainage will be simpler if there is ground at a lower level adjoining it.

Another point about siting is to place the pool in a position where it can be filled easily. This will not have to be done very often, and as a rule rain will keep the water up to the necessary level, but a garden tap within a reasonable distance will be an advantage.

Construction is very simple. Mark out the shape and—

this is quite important unless you want the pool to look lop-sided—mark it on a level area. Take out the soil over the whole area to a depth sufficient to allow at least four inches of concrete and four to six inches of water.

Now, in the centre, make a second excavation. Mark out this central basin and dig out enough soil to allow eighteen inches of water (or whatever depth is required) and four inches of concrete. Make the foundation firm by ramming in broken ballast, clinkers, broken bricks, or any other suitable rough material, and on this lay your concrete. If the pool is to be large put some metal reinforcement in the concrete.

Four inches of concrete has been suggested as a minimum. A thin concrete tank can never be recommended. We are dealing with a structure that should last a lifetime, and small economies at this stage are ill-considered. Admittedly, much thinner tanks have been made and have given good service when on a firm foundation, but there is always a risk of thin concrete cracking. The foundation is most important. A good one will not yield under the weight of water and so cracks do not appear.

Shape should be considered very carefully before any work is done and, while an irregular edge can be interesting, a limit should be set to the amount of irregularity allowed. Never scallop a margin as if it were a pastry crust for a mince pie. Consider the pool as if it were a natural feature made by a stream and work out how the bank would be pushed in in one place and how it would have been built up by silt in another. Peg out the outline and join with loose cord. Then study it imaginatively and make any alterations called for before starting work with the spade.

You should consider very carefully what type of margin to have, since it will make a lot of difference to the final

appearance. If the pool is at all formal, that is rectangular, circular, or oval in shape, you could give it a plain edging made either of concrete slabs,* or of paving stones that match the concrete of the pool. Such an edging can be set in grass, or may extend so that the pool will be in a courtyard, perhaps with a low wall as boundary between it and the rest of the garden.

If the pool is set in paving, make a generously wide edging, one wide enough and firm enough to walk on in comfort. On the other hand, try to keep a good proportion between the pool and this edging so that you do not have a tiny pool with far too much paving round it, or a huge pool with only a ribbon of paving.

There are two types of margin suitable for an irregular-shaped, informal pool. One is made by allowing the grass to merge into the edge of the pool in a natural manner. In this case it is a good plan to finish off the pool rather below the level of the surrounding ground so that the grass will grow down to it. A few stepping stones could be placed at spots that will come in for much wear.

If rocks are used at the pool's edge they will need to be placed with care in order to get a pleasing effect. As far as possible the rules for making a rock garden should be observed. That is, the rocks should have natural strata which must be laid horizontally. They should be partly buried in the ground to give, as far as possible, the impression of a natural outcrop. Since they are being placed round the edge of a pool, this impression will be very difficult to convey and with larger pools it is better to combine the two kinds of margin and have grass to the water's edge in some places and rocks only where they can be arranged to appear like an outcrop.

Care has to be taken in deciding what plants to have

* Instructions for making these will be found in Chapter 12.

among rocks at the edge of the water. There should be some plants among them, but since attention at the pool should be attracted by the water plants it is a mistake to allow too much competition. It is doubtful, for instance, whether the more easy and rampant rock plants such as Arabis or Mossy Saxifrage are the best choice. Few aquatics make masses of colour, so their waterside companions are best chosen from plants that do not bloom with too much abandon.

5. The Formal Pool

A FORMAL rectangular pool, though basically simple, is the most elaborate to make. This does not mean that there is any formidable difficulty in the construction, but since it has vertical walls of concrete some means must be supplied to hold them upright until they have hardened. On the other hand, no other pool, in suitable surroundings, looks quite so good. It is ideal for the centre of a good lawn, or in a large paved courtyard. (Pl. I.)

Briefly, the formal pool is a concrete, rectangular tank set in the ground so that its edge comes at soil level. It is perfectly plain in structure and it must be absolutely waterproof.

In planning, allowance should be made for a thickness of six inches of concrete. Four inches will be enough for

very small pools, but, as has already been mentioned, economies in this direction are not worth while in the long run. The finished pool should allow for a depth of some eighteen inches to two feet for water lilies. Plants that require shallower water can have special shelves built for them, while those that grow in only a few inches are accommodated on a ledge running round the pool.

An important point to be considered before work is started is the question of drainage. With a small pool drainage is not so important. If it is necessary to empty the pool at any time it can be done by baling it out, or with a simple siphon. Siphoning is possible with a pool of any size provided there is sufficient fall in the ground below the pool. To siphon water out of a pool a long length of hose is placed in the pool and allowed to fill. One end is secured in the pool itself; the other end, carefully closed to keep the water in the tube, is taken out and carried to a lower level. On opening this end the water runs out and the pool will be emptied. Some form of elementary filter, a covering of coarse muslin is sufficient, can be placed over the open tube in the pool to prevent small fish making an exit with the water, though they should have been removed before the work started.

If siphoning is not possible (on level ground it won't be) some form of drainage must be arranged before the pool is made. The type used will depend on individual circumstances—what other drains are available, and so on.

A pipe which can be plugged easily could be laid from the floor of the pool to the nearest drain. Or such a pipe could be run to any convenient point lower than the floor level.

If neither of these is possible a soakaway will have to be made below floor level and the pipe run to that. A soakaway is merely a deep hole filled with brick, clinker,

coke breeze, or any coarse material. The soakaway should be of such a size that it will contain most of the water in the pool. Small soakaways are effective, but take longer to empty the pool. If they are made in a stiff clay soil the water will drain away only very slowly, so they should be of ample size.

If there is any danger of the pool becoming flooded it is a good plan to put in an overflow pipe. This can be set in the vertical wall before the wall is quite completed and can run to a drain or a soakaway. Unless the overflow pipe is very large it should be protected by netting to prevent its being blocked.

The first step in the actual making of the pool is to excavate the ground to the shape and depth required. In all but the lighter soils it should be possible to do this without any wooden framework to keep the walls upright, but on sandy soils it may be necessary to board round the excavation to prevent it falling in. Except where it is intended to use the excavated soil close to the pool it should be taken away to some other part of the garden. The top spit can be stacked, grass-side down, to provide loam for future use. Unless the simplest structure possible is wanted the walls should have a step with a further containing wall as shown in Fig. 2, which will give a ledge round the pool on which one may grow aquatics needing only a few inches of water.

At this stage make certain that the top of the pool will be perfectly level. It is easy to check this with a spirit-level and some boards laid across the excavation. If the top of the pool is not level the water will have a lop-sided appearance which will be a source of irritation every time it is seen, and—as it will be—commented on by visitors.

An absolutely firm base is essential. Any subsidence in it will almost certainly cause the concrete to crack. A layer

of coarse material, clinker, broken brick, and so on should be laid on the floor of the excavation and beaten down firm and hard. Clay subsoils with their habit of drying and cracking during prolonged drought can cause a lot of damage to a pool, so on a soil of this nature it is as well to spread a generous layer of sand.

Concrete is made of a mixture of three materials:

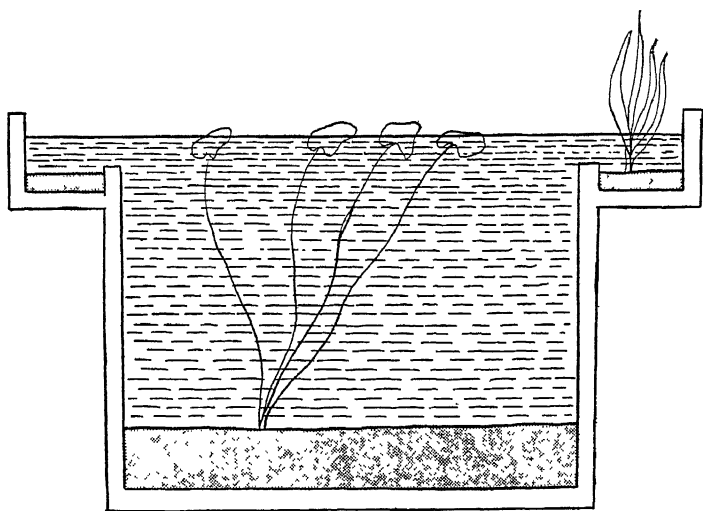


FIG. 2. *Section of concrete pool, with ledge*

cement, sand, and gravel, the last being variously labelled as shingle, ballast, and aggregate. The proportions for concrete for pools are easy to remember, consisting of the figures 1,2,3; the mixture being 1 part of cement, 2 parts of sand, and 3 parts of gravel. The sand and gravel must be clean, and the measurements are by bulk (bucketsful, for instance). The 1,2,3 mixture will require rather more than half a bucketful of water to mix into a fairly stiff,

workable medium. The shingle should be graded from $\frac{3}{4}$ inch to $\frac{3}{8}$ inch.

The proportions do not come out quite the same by weight as by bulk. One cubic yard of concrete requires about $5\frac{1}{4}$ cwt. of cement, $9\frac{3}{4}$ cwt. of damp sand, and $19\frac{1}{2}$ cwt. of shingle. The fractions are approximate.

To work out the amount of concrete required it is necessary to calculate, *a*) the volume of the tank by its outside measurements; *b*) the volume of the tank by its inside measurements. *b*) subtracted from *a*) gives the volume of concrete needed. If this is in cubic feet it must be divided by 27 to bring it to cubic yards.

A simple example may make this clearer.

Suppose the pool is to be 6 feet long, 3 feet wide and $1\frac{1}{2}$ feet deep.

If the concrete wall is 6 inches thick, the outside measurements will be 7 feet long, 4 feet wide, and 2 feet deep (there being no lid to the tank).

$$\text{Volume } a) = 7' \times 4' \times 2' = 56 \text{ cubic feet.}$$

$$\text{Volume } b) = 6' \times 3' \times 1\frac{1}{2}' = 27 \text{ cubic feet.}$$

$$\text{Volume of concrete } (a - b) = 29 \text{ cubic feet.}$$

Since there are 27 cubic feet in a cubic yard this pool will require slightly more than a cubic yard of concrete.

There is no need to be correct down to the last thimbleful in the quantities one mixes, but it is best to keep roughly near the given proportions.

Mechanically mixed concrete saves a lot of hard work, but is hardly likely to be available in small quantities. For small quantities the mixing is done on a clean floor of wood, metal or cement. When the work is finished the floor should be brushed clean immediately with plenty of water.

The sand is spread out first, the cement spread over it

and the two mixed thoroughly by turning them with a spade. The shingle is next spread over the mixture of sand and cement and again mixed with the shovel until the coarse material is evenly distributed through the sand-cement mixture.

Since it is easy to make the mixture too wet the approximate quantity of water needed should be measured into a watering can. This is poured on to the dry materials, mixing them the whole time. The process can be done by one person, pouring a little water on the heap, mixing, adding more water and mixing again, but, really, cement-mixing is a job for two people. The end to aim at is a firm plastic mass, wet enough to work easily, but not sloppy.

When the mixture is ready it is placed (not thrown) on the floor of the hole to form the bottom of the tank. A few pegs, which can be pulled out later, should be pushed into the ground to give an indication of how deep to lay the concrete.

If the pool is to be big the concrete should be reinforced. The reinforcement consists of a metal web or mesh which will give added strength. There are proprietary reinforcements on the market, but coarse mesh wire netting (not small mesh, because this can cause pockets in the walls if the mixture does not work through it) is quite satisfactory. Whatever reinforcement is used is placed in the mixture when about half the thickness is laid. Painted metal should not be used because concrete does not adhere well to paint. When the floor of the pool is complete it must be pressed down firmly and smoothed off finally with a trowel. The edge should be scored and indented all the way round to form a key for the walls to grip to. Finally, cover the work with wet sacks and leave to set.

In the case of a small pool, and provided all prepara-

tions have been made beforehand, it is possible to complete the whole work in one day, but in practice it simplifies matters if one can stand on the floor of the pool when erecting the walls.

The floor should harden sufficiently in three or four days to enable work to continue. An open box-like structure, known as shuttering or formwork, has to be prepared to contain the walls as they are built up. This is nothing more than a box, open top and bottom, of the same dimensions as the inside of the pool. If it is large it must be braced by cross-pieces. It is stood on the floor of the tank and there will be, of course, a space all round, between it and the walls of the excavation. This is where the tank walls will come and this is the space to fill with the rest of the concrete. The shuttering should be smeared with something like soft soap to ensure that it can be removed easily.

Now prepare a cement grout of equal parts of cement and sand and enough water to mix them to the consistency of thick cream, and give the scored keywork round the edge of the tank floor a good coating of it. The purpose of this is to ensure a good joint between the floor and walls. The rest of the concrete can now be placed in the space between the wood and the surrounding soil. It must be worked down firmly and evenly as the work proceeds. As concrete will not adhere to soil it is a good plan to make holes in the soil here and there into which it can penetrate and so give extra holding power. Reinforcement, preferably in the form of rods, can be added as the wall rises.

Mention has been made earlier of a ledge for aquatic plants needing only a few inches of water (see Fig. 2). This ledge can be added later or it can be made at the same time as the walls.

It is done in this way. When the level of the concrete reaches the ledge height a narrow floor is laid as shown in Fig. 2. Then provision is made for the wall to be continued to its full height by placing battens, one to contain the shallow wall, the other to contain the rest of the main wall. A simpler method is to make the ledge, or step, and finish the wall without bothering about the narrow inner wall. In place of this wall stones or bricks are put around the edge before the concrete has hardened. When the structure is complete it is again left a few days to set.

As soon as the shuttering is removed water can be put in the pool. It will help the concrete to harden. A fall in water level at this stage does not mean there is a leak; some water is always absorbed by the concrete.

The method described above includes all the operations necessary for building any formal pool except the circular pool, in which the shuttering has to be made of narrow boards nailed on to a wooden framework, or plywood bent round a framework, or flat metal which can be shaped as desired. The principles are the same whether the pool is small or large, but while small pools can easily be made by the owner, if large pools, or a series of pools, are planned it is as well to consider getting some help.

There are two variations on the method given which may be found of interest. The first is to have a raised tank. This is the usual garden pool pulled inside out, that is, the walls rise above the ground instead of sinking into it. This kind has its disadvantages. The water temperature is not as even as it is in the sunk pool, and it needs very strong walls to withstand the weight of water and to ensure against frost damage. But it is easier to make and it has the great advantage of bringing the water surface up to or near to, eye level. It is much easier to see and examine what is in it, whether plant life or animal.

This is a suitable type for a garden in which there are small children. They cannot, unless they are very persistent, fall in. Garden pools, in view of their shallowness, are not usually a great danger to children; the raised pool (provided seats are not left close to the walls) is, in normal circumstances, quite safe.

A pool of this type is made by laying the floor on a level foundation and then raising the sides, either between shuttering, or by building them of bricks and facing strongly with cement. The walls should taper slightly towards the top, which may be rounded, or have a narrow coping set on it.

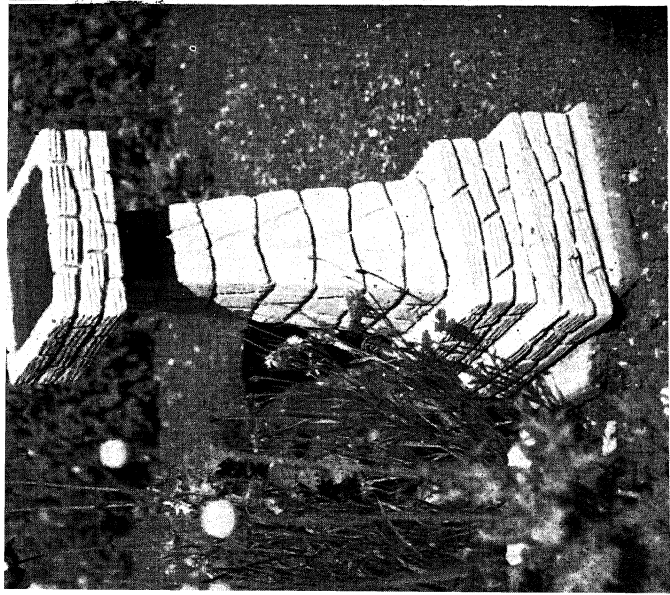
A variation on this is what could be called the half-raised pool. This is very suitable for a sloping garden. A section of garden is excavated to form a level floor and a vertical wall, as shown in Fig. 3, p. 39.

The concrete floor of the tank is laid on the ground, a wall built against the vertical cutting (with the aid of shuttering) and the opposite wall will stand in the open. The ends will be half in, half out, of the soil.

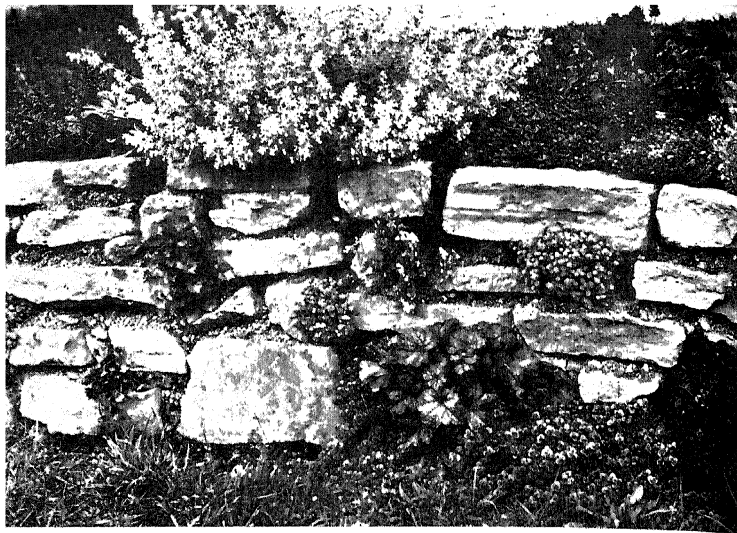
Below the pool another section of ground should be cut away to make a path. Between the path and the pool wall some soil and rocks, or soil behind a piece of dry-walling, can be used for growing some suitable carpeting and trailing plants.

Quite small pools can be made in this way. The method is suitable for pools either regular or irregular in shape.

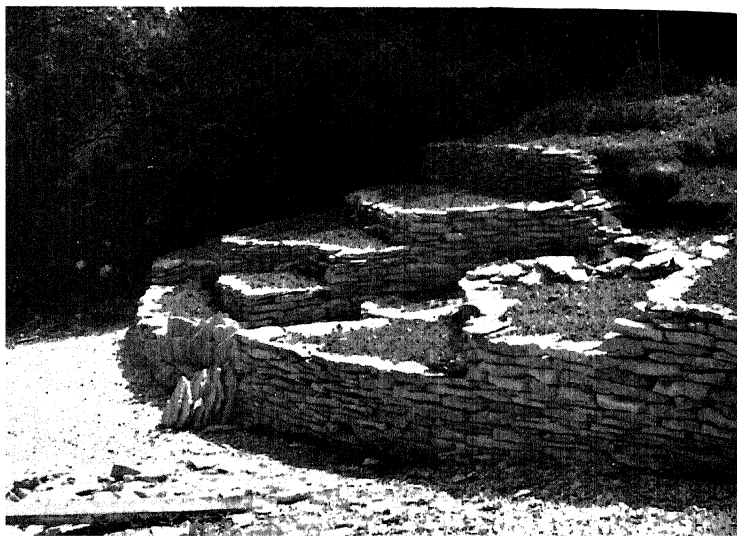
It should be noted that this is the type of pool into which children *will* fall unless there is some way of keeping them from the upper side, but if the water is not more than about eighteen inches in depth there is not much danger. I may mention that our own children fell into our own stream and pool with amazing regularity from the time they could toddle, and at all seasons of the year;



v. (*left*) Bird-bath in concrete. (*right*) Cement table for Houseleeks.



vi. (*above*) Plants in a dry-wall.
 (*below*) Dry-wall beds under construction, Fox and Hounds Inn,
 Crawley, Hampshire.



in fact, after the first breath-taking moments they seemed to *like* falling in.

At the same time, gardeners with small children should take some elementary precautions until they are sure their offspring can get out of the water as easily as they can get into it.

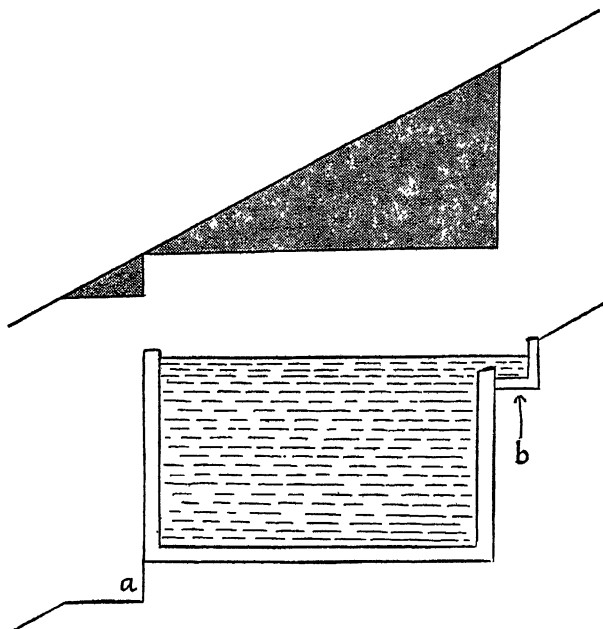


FIG. 3. Section of pool on a sloping site. Shaded portion shows soil to be excavated. a) path; b) ledge for shallow water plants.

6. Getting the Pool Ready

ONCE A POOL has been made it should be watertight, but it is wise to make certain this is so before starting to make use of it. A very slight leak may not seem of great importance in its early stages, but the slightest crack, expanding and contracting in heat and cold and subject to the influence of frost, will eventually become worse, and then the pool must be emptied, cleaned, and all the messy business of making good the damage gone through. If there is any doubt at all about leaks appearing in the tank it is a wise precaution to make sure. There are a number of proprietary brands of waterproofing material on the market. Some are as good as their makers claim; a few are not. The best waterproofing material for cement is cement. Wet some of it down to a thick cream. The tank must be given two or three coats of it, allowing each to dry before the next coat is applied.

The best time to make a pool is during the autumn. This would have to be done before the frosts, since concrete does not set in frosty weather. During the winter the pool could be filled and emptied a few times. There is lime in fresh concrete and it dissolves in water, making it too alkaline to be good for the health of plants or fish. But after a winter and a few changes of water all the lime, and any other impurities that might be present, would have disappeared, and the pool could be stocked in spring.

This is an ideal, but of course pools are made at all times of the year. A pool which has to be planted and

stocked as soon as possible after being made must have the seasoning process hastened. There are different methods of doing this.

The first is to give the inside of the pool a coating of some material which will insulate the water from the concrete. A solution of 1 part waterglass to 4 parts water is satisfactory for this purpose, and at least two coats will be necessary. There are also proprietary preparations sold for seasoning pools. These generally perform a double function, forming a layer between the water and the concrete, and waterproofing the pool. The one disadvantage of these methods is that if, for any reason, the coat of material peels away, the water may become alkaline at an inconvenient time.

The second method of seasoning is to fill the pool and then neutralize the alkalinity by the addition of phosphoric acid. Enough is placed in the water to give an acid reaction to litmus paper, and this is repeated until the acid reaction is constant. When this happens the pool can be cleaned out and is ready for soil and its final filling of water.

Another way of seasoning is to allow the water to do its own work. The pool is filled, left for a few days, emptied and refilled. This must be done three or four times, after which it should be fairly safe to use.

Finally, there are bituminous paints suitable for painting the insides of pools. These are obtainable in different colours, and since they are waterproof they will perform the double function of seasoning and stopping small leaks.

As soon as the pool is ready for its final filling of water it will be time to put in the soil.

The best soil for water gardens is a mixture of well-rotted loam and old cow-manure. Those with a greenhouse, especially if they grow chrysanthemums, will

probably have some of this already stacked. It is prepared by cutting the top spit of soil from rich pasture and stacking it, grass side downwards, with the manure between each layer. Loam stacked in this way in the autumn is ready for use by spring. Some gardeners turn it during the winter, but it is doubtful if this is necessary. The mixing can be done when the compost is required. The grass at the edges of each layer will often grow at the sides of the stacks and should be chopped off before the loam is used.

If cow-manure is not obtainable a six-inch pot of bone-meal to a barrow-load of loam is a good substitute. Bone-meal can also be used later as a fertilizer for the pool. When a rotted loam is not available then the best soil possible (together with the cow-manure or the bone-meal) must be used. This may come from old pasture with the grass layer pared off, or the contents of the compost heap will serve.

When the main layer of about four to six inches of loam is laid in the pool a further layer of unmanured loam should be added to prevent manure rising into the water and fouling it. The soil should be made as firm as possible.

Plants of the submerged aquatics can now be put in. They should be planted very firmly with the roots spread out, and, to make sure they will not later come floating to the top of the water, anchor them in place by putting a few stones round them. The stones can be removed later when the plants have taken firm hold of the soil. The roots of water lilies differ. Some are rhizomes, or thickened underground stems; these should be laid horizontally on the soil. Those with tubers should be placed upright. Most other water plants are put in with their growing points just through the surface of the soil.

When planting is completed the water can be added.

It is important to add the water gently so as not to stir up the soil more than can be helped. Also add, if possible, only a little at a time over a period of a few days. A shallow layer of water warms more quickly than a deep one, and the plants start growing sooner in warm water.

This method, of course, can only be carried out with a new pool. Often the plants have to be placed in a pool already in existence. In this case, they can be planted in the soil on the floor of the pool, and may be anchored in position by stones, which can be removed when roots have formed. Lilies planted in deep water (lakes, for instance) are usually sunk in weighted, open-wicker baskets.

In deep water the plants can be placed in baskets, which are then sunk to their required positions. Eventually the baskets rot as the roots find their way into the surrounding soil.

Another method is to bind each plant, sandwich fashion, between two pieces of turf and sink the bundle into the pool. The crown of the plant must be exposed and care must be taken to arrange the turfs so that this is uppermost.

There are many beautiful, tender water lilies. On the Continent and in America these are sometimes grown in the outdoor pool. The method is to grow them in pots and boxes (generally boxes) and sink them in the pool when the water is warm enough. Something is generally placed in the pool for the boxes to stand on. They are removed from the pool in autumn and stored under glass for the winter.

7. Water Lilies

MOST PEOPLE with a pool want to grow water lilies. This is natural, for the Nymphaeas (water lilies—they are not really lilies at all) are very beautiful plants. In fact a water lily flower in full bloom on the surface of a pool *always* attracts attention, and people who are not used to them will, I have noticed, stand looking at them for a long time. They fascinate. This is partly due to their shape, which is exquisite, but probably the secret of their attraction is the fact of their growing where they do, on the surface of the water. It is that blend of the unexpected and the beautiful that holds the onlooker. There are no Nymphaeas flowering on land. The plants will survive, and grow, in a very damp place, but they will not produce flowers. Even if they did it is unlikely that we should particularly want to grow them.

Before coming to water lilies for the pool it might be pointed out that there are some which cannot be grown out of doors in this country. The legendary Lotus (botanical name *Nelumbium*) is one of these, and none of the night-flowering plants is hardy. This does not mean that they are difficult to grow, but they have to be grown in tubs or tanks in a greenhouse. You do occasionally see blue water lilies flowering out-of-doors in warm districts, but as a rule they are grown in pots and only placed in outdoor pools for the summer. Also, since we seldom have

enough sun to ripen the tubers thoroughly, the number of losses is high.

Water lilies are generally classified in one of two ways; either by the depth of water they require, or by the amount of water area a plant covers. The first method is the most usual, and since it is often used in catalogues it is the one chosen here. It is not at all a cast-iron method and you should not turn down a flower you want because it needs more or less water than you have. The plants are very adaptable about depth, and classification by water area required is in many ways more useful. For example, I have one small pool in which a single plant of a water lily grows and grows well. The pool was made and the lily planted long before I came to the garden. Every summer the leaves spread and spread until every square inch of the water is covered and the leaves overlap each other and even come crowding over the rim of the pool. Many of the flowers become hidden by leaves. The trouble is that the gardener who put the plant in chose a variety too vigorous for the water area. If he had planted a less rampant grower we might see a little of the water and all the flowers.

There is an enormous variety of flowers available in all sizes and colours. In form they are either star-shaped or goblet-shaped. The following list contains only a small selection.

Plants for water up to one foot in depth.

The smallest Water Lily is *Nymphaea tetragona*, or *N. pygmaea*. Some experts say these are different species; some say they are the same. They are so much like each other that it does not greatly matter which you grow. There are white, yellow, and red varieties. The plants can be grown in as little as six inches of water.

Here are some more plants that need water up to a foot in depth.

Nymphaea Graziella. Coppery-red.

N. Laydekeri. Various shades.

N. odorata. An American species, white or pink.

Plants for water one or two feet deep.

N. Albatross. Good for small pools. Large, star-shaped white flowers with conspicuous yellow anthers.

N. Amabilis. Salmon colour, deepening towards the centre of the flower, and turning to rose.

N. Attraction. Deep red, having petals tipped with white. It will grow in deeper water.

N. Comanche. The flowers are apricot when they open and change gradually to red, though the outer petals retain their yellow colour.

N. Escarboucle. A brilliant crimson variety of great merit. The large flowers are freely produced. It can be planted in deeper water, as it is a vigorous plant.

N. Froebeli. An old variety, beautiful and satisfactory. It has red flowers and is good for small pools.

N. James Brydon. An American variety. It is better for part shade than are most water lilies. It is one of the best red hybrids, and has crimson, rounded flowers. A very popular variety.

N. Marliacea. M. Marliac was the great French hybridist of Water Lilies. The Marliac hybrids are the oldest and best known in cultivation. There are seven varieties, with colours of white, yellow, pink, and red. The best for this depth of water are *N. Marliacea chromatella* (yellow), *N.*

Marliacea ignea (red), and *N. Marliacea carnea* (white, tinted with pink).

N. Rose Arey. A very popular variety. The flower is a rich pink colour, delightfully scented. Star-shaped. One of the best pink hybrids.

Water lilies for water between two and three feet deep.

N. Colossea. A strong-growing variety that has a long season of flowering. It bears large pink flowers that fade to white.

N. Gladstoniana. An American form of the highest merit. About the largest white water lily. The flowers are scented. The plant needs plenty of room and plenty of good soil to grow in.

N. tuberosa maxima. Another white variety, vigorous enough to grow in a lake. In shallow water the flowers stand above the water.

N. Virginale. Large white flowers shaded with pink at the base. Yellow stamens. Long flowering season.

N. alba, our native water lily, is often found in deep water, sometimes as much as ten feet. On the other hand, it will flower quite satisfactorily in a few feet of water. For large sheets of water *N. alba* is ideal and very lovely. It is not as showy as some of the commercial varieties, but there is probably no other genus of cultivated plant in which the wild types are so near those of the garden in beauty and size and colour as they are in the water lilies.

8. Other Plants for the Pool

AS A RULE gardeners have only water lilies in their pools. There are, however, many other attractive plants that can be grown in water. None of them are as beautiful or as showy as the *Nymphaeas*, but some are very attractive and, where there is room for them, they add variety and interest. Those that float or grow beneath the surface of the water certainly should be grown, since they are almost essential to keep the pool healthy. Their chief work is to keep the water well-supplied with oxygen. They absorb carbon-dioxide in sunlight and release the oxygen, much of which is dissolved in the water. If you watch the pool on a sunny day the tiny bubbles of gas can often be seen rising from the edges of the leaves to the surface. This oxygen is very necessary to fish. Also fish eat some of the submerged plants, and their fry shelter and grow among their stems and under their leaves.

A few water plants, duckweed, for instance, are notorious for spreading and taking up more room than they should. In lakes and large pools this can be a nuisance, but in small ones it is nothing to worry about. The weed can easily be raked out and thrown on the compost heap the moment it gets out of hand, and the bits left behind will soon grow and take their place. Another way of preventing plants spreading too much is to plant them in pots and sink the pots in the pool.

The lists of nurserymen specializing in aquatics will contain the names of many interesting plants to grow in

the pool. The following is a short selection, mainly of plants with attractive flowers. Some of them are British wild plants, and any pool gains added interest when it contains plants you have collected for yourself.

Aponogeton distachyum. An African plant commonly called Water Hawthorn. It is not perfectly hardy, so should be planted in eighteen inches of water. Among the floating leaves appear unusual white flowers with a very strong hawthorn scent.

Butomus umbellatus. This is called the Flowering Rush, though it is not a rush, and is a native plant. It needs only a few inches of water and grows from two to four feet high.

Calla palustris, the Bog Arum. It needs rich soil at the margin of the water. The flowers are small arums, and are said to be fertilized by snails. The ordinary arum, *Richardia africana*, though a tender plant, will also grow in the pool if it is planted deeply enough to keep it out of reach of frosts. In my own pool I grow it in a pot which is sunk deeply into the soil. It can be taken out when severe frost threatens. In the south of England I have seen clumps planted out in the water and producing fifty to sixty flowers at a time. Striking though they appear in the pool they do not always harmonize well with water lilies and it is wise to plant them at some distance from each other.

Caltha palustris. This is the Marsh Marigold, a native, and a lovely flowering plant. It does well in shallow water or out of it. It is possible to collect this for yourself from a pool, lake, or streamside, but there are also a few cultivated species which are worth begging or buying. *Caltha palustris alba* is white. *C. palustris flore-pleno* is double, and one called *C. monstrosa plena* has much larger flowers than the wild type. There is also a tall species, *C. polypetala* from southern Europe.

Cyperus papyrus. Of interest because it is the papyrus of the ancient Egyptians and the origin of our own paper. It is not hardy, but can be lifted and wintered under glass. It grows best in a few inches of water.

Eichhornia speciosum (or *E. crassipes*). The Water Hyacinth, a curious plant with floating leaves supported by air-filled stems. The scented flowers are lavender-blue. The plant is not hardy, which is perhaps just as well, because it is a rampant spreader.

Elodea canadensis. The only good reason for mentioning this is to recommend you not to plant it. It has a curious history. Nobody knows how it got to this country (though it arrived by way of Ireland), but a century ago it was spreading in English waterways so rapidly that it had become a serious nuisance. In time it seemed to settle down and became somewhat less rampant, but wherever it grows it is always a weed and always outgrows its welcome. Against its vices we have to admit it is one of the best oxygenators known. It makes excellent cover for the fry of fish, is good fodder for waterfowl and, so it has been claimed, horses also.

Hydrocharis vulgaris. This is a charming little native plant, with floating leaves and three-petalled white flowers. The common name is Frog-bit. It spreads, but is not difficult to keep under control.

Iris. The best species for the pool is *Iris laevigata*. It has a very beautiful flower, similar to the Japanese Kaempferi Irises, except that the latter do not like their feet in water. There are a lot of garden varieties of *I. laevigata* in various colours, and they are listed in nurserymen's catalogues. If you know someone who grows them get him to save a few seed heads, for they are quite easy to grow from seed.

Lysichitum americanum. A large showy, yellow arum to grow at the edge of the water or in a bog garden.

L. camtschatense. White. They are very decorative, but have an unpleasant smell.

Mimulus. This is musk, and the plants grow well at the water's edge. Some varieties are found growing wild, but it is not known for sure whether they are wild plants or escapes from gardens.

Myosotis palustris. A native plant, the Water Forget-me-not. If you can find good forms with large, clear, blue flowers they are worth transplanting to the shallow parts of your pool.

Pontederia cordata. The best blue-flowered water plant we have. About two feet high. It has handsome, heart-shaped leaves and spikes of light-blue flowers. For shallow water.

Sagittaria. The common name is Arrowhead and refers to the leaves. It is a handsome plant that grows in shallow water, but its species are rather tall for most pools.

Typha latifolia. Another plant that needs a large pool to show it off to advantage. Its flower is the popularly named Bulrush. Actually, there has been some mixing up of names here, as the true Bulrush (corrupted from Pool Rush) is a loose-headed spike *Scirpus lacustris*. However, if you have room for bulrushes and want bulrushes, then it is *Typha latifolia* you are after. In many parts of the country you can collect your own plants at the water side.

Vallisneria spiralis, or Eel Grass. Not one of the showy, flowering plants, but I recommend it strongly, especially if you have fish, because it is such an excellent oxygenator.

Veronica beccabunga. This list can end with another native plant, a speedwell commonly called Brooklime. The flowers are blue and quite charming. Grow the plant in a few inches of water.

9. Bog Gardens

A BOG GARDEN, or marsh garden, can be considered as an addition to the pool—making, as it were, an intermediate stage between the ordinary garden and the water garden—or it can become a garden feature on its own.

In the bog, though there is no standing water, there must be an ample supply of moisture to provide suitable conditions for plants which thrive in marshy places. And among these plants—notably certain species of the *Primula* family—are some of the most beautiful flowers we have in the garden, so the bog garden is never dull.

The bog garden is the simplest form of water garden we can have, and it presents very few difficulties in construction. It is easier to make than the wild gardens that have become popular in recent years, but it may need more attention than the average wild garden because the plants in it, having unlimited water, will spread very rapidly. No part of the garden will fill with plants quicker than the bog, which means that the rampant ones will have to be thinned at times, and it will be necessary to

watch any particular treasures to see they are not crowded out.

The best site for a bog garden will depend on whether there is a pool or not. If there is a pool—and it may be mentioned that an informal, irregularly-shaped pool harmonizes best with a bog—it will go generally somewhere between the pool and any background of trees or shrubs. Where there is no pool it is still as well to plan it with an eye to the background. The bog garden harmonizes well with shrubs and trees.

Many bog plants do well in shade, and some need it. This may be borne in mind when choosing a site. On the other hand it is as well not to have shrubs too close to the bog or they will take more than their fair share of moisture and food. In nature many bogs and marshes are in exposed situations, but as a rule the plants found growing in these are the least decorative. On the hills there are also bogs in which trees, willows and alders in particular, grow freely, and it is among these that flowering plants are found at their best.

The bog garden has two main needs. It must have a good supply of water; and since it is better that this water should not be allowed to become stagnant it should have some provision for drainage. For this latter reason a position on a slight slope is an advantage.

It can be natural or artificial. The former gives by far the greater scope, and also has the advantage that the garden can be almost unlimited in size.

To construct a natural bog garden it is first necessary to decide on the site. Then arrangement can be made for the water supply. The latter may be natural, a branch of a diverted stream, for instance. Or it can be artificial; that is, piped to the chosen position. As a third alternative it can be brought from a tap by a hose and turned on

when necessary. Obviously this is the least desirable method.

Taking a site which can be naturally and easily flooded, it is a good plan to excavate the soil from the site and replace it with leaf mould, peat, and the contents of compost heaps. Most bog plants require soil rich in organic life. Few of them need lime (some are lime-haters), so lime need only be introduced especially for plants which require it. Provided sufficient humus-forming material can be introduced, there is no need to use farm-yard manure at all, but it can be added if other humus-forming materials are in short supply.

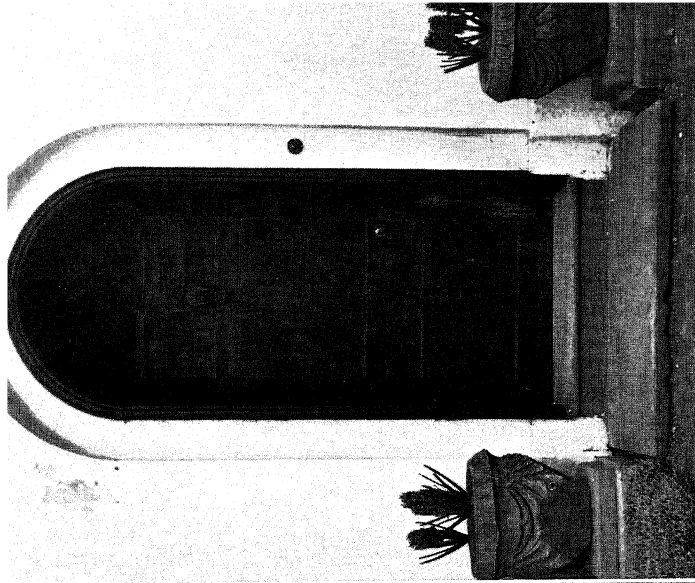
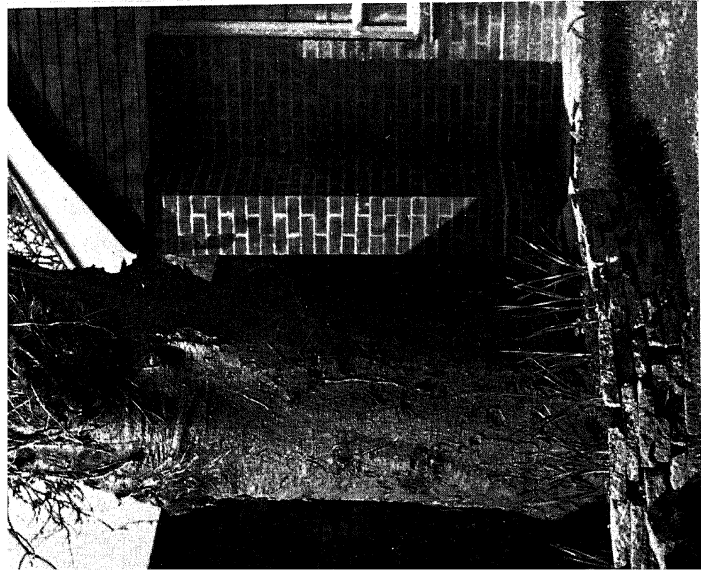
Often a position on waste ground can be used for the bog, but it may not be possible to change the soil. When this is the case the surface should be forked over and weeds removed. While the soil is an important factor it is on the provision of constant moisture that success will really depend.

Broadly speaking, the natural bog garden can be made in any position that can be saturated and kept constantly flooded with water, bearing in mind the necessity for making provision for the escape of surplus moisture.

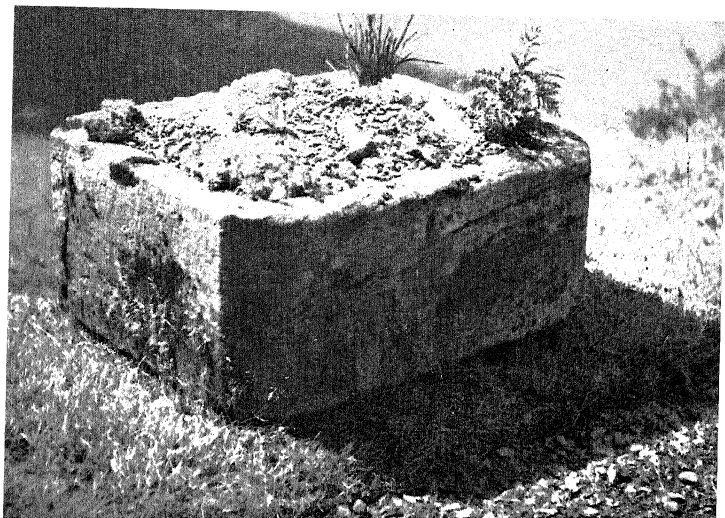
An artificial bog garden is made on similar, though somewhat simpler lines than those followed in making the informal pool.

The site is chosen and the soil removed to a depth of $1\frac{1}{2}$ to 2 feet. Where cement is to be used the excavation should be deeper rather than shallower.

The simplest method is to line the excavation with various kinds of ballast, clinker, broken bricks, and so on, pack this hard into the floor of the basin, and then cover the ballast with anything up to six inches of puddled clay. It is the simplest method and perhaps the best. I do not know anything about canal construction of the present



vii. (*left*) Low wall round bole of tree. (*right*) Stone vases for bulbs.



viii. (*above*) Alpines in a sandstone sink.
(*below*) Wooden bird-table, Wisley.



day (if any canals are constructed today), but Brindley, the Derbyshire man who made canals for the Duke of Bridgewater, used puddled clay for their beds, and they were completely satisfactory.

The alternative is, of course, concrete, the excavation being lined with it.

Whichever is used, puddled clay or concrete, some drains, more or less according to the size of the garden, should be laid at about the same level as the pipe carrying water into the garden. The excavation once completed is filled with a soil as rich in humus as possible.

I have tried to make the above instructions simple, but over-simplification can easily lead to confusion, and since the bog garden is so simple, so easy, and can be such a delightful form of water garden on its own, even where the making of pools is out of the question, I would like to make things simpler still: A bog garden is really no more than a depression in the ground, full of rich soil, which it is possible to keep constantly saturated with water.

Since this part of the garden will be constantly wet a few firm paths should be made so that it is possible to move about in it at all seasons in comfort. Here nothing will serve better than stepping-stones. They should be large; they should be flat; they should be close together; and their level should be appreciably above the level of the garden. They should have every quality that enables progress to be leisurely rather than acrobatic.

And, as a final point, water that feeds the bog, whether from a natural supply, or from a pipe, might well be turned off from November until early spring.

There are so many good plants which will thrive under bog conditions that it is difficult to know where to draw the line. Many ordinary herbaceous perennials, particularly if they are not lime-lovers, find the conditions of the

bog to their taste. On the other hand, unless space is unlimited it seems a pity to crowd out plants which have an affinity with the natural bog in favour of many which have not that affinity, though they appreciate unlimited humus and constant dampness at the roots. This point is mentioned here because lists are sometimes published which include such names as *Helianthus*, *Campanula carpatica*, *Arabis*, *Phlox subulata* and so on, even *Asters* (Michaelmas daisies). Admittedly these grow well in damp places, but they are not bog plants, and bringing them to the water garden merely turns it into a glorified herbaceous border. If this is the best one can do it is hardly worth going to the bother of making a bog at all. But admittedly, drawing the line is a problem.

10. Plants for the Bog Garden

Anemone. A number of *Anemone* species are woodland plants and thrive in shade and under damp conditions. A drift of *Anemone japonica* always looks attractive on the outskirts of the bog. There is a white form and some pink ones. One called Louise Uhink is a white semi-double.

Astilbe. This is the Goat's Beard and, though not related to them, resembles the *Spiraeas*. The old-fashioned white *Astilbe* is *A. japonica*, but there is a host of hybrids

to choose from nowadays in various shades of pink and red.

Drosera. The main reason for mentioning this is that it is a true bog plant and is insectivorous. The leaves are covered with sticky hairs which hold and dissolve any small insects that alight on them. Some species are natives. They are not easy to transplant or establish.

Filipendula ulmaria (or *Spiraea ulmaria*) is the English meadowsweet, one of our most scented and most charming native flowers. 'It is reported,' wrote the herbalist Gerard, 'that the floures boiled in wine and drunke do make the heart merrie.'

Gentiana. There are two good blue Gentians which will thrive under bog conditions. They are *G. asclepiades* and *G. pneumonanthe*.

Gunnera manicata. There is no plant like it. Perhaps that is just as well because we could hardly find room in our gardens for many that would grow to the same size. It looks something like a coarse, giant rhubarb. But what a rhubarb! Under the leaves of a well-grown specimen an adult could shelter from the rain as drily as in a tent. The leaves will grow to eight feet or more in diameter and they stand six or seven feet high. *Gunnera* comes from Brazil, where it was collected in the nineteenth century by a Belgian collector, Joseph Libon.

This plant likes rich soil and a lot of moisture. In autumn the crowns can be protected by covering them with the dead leaves, for it is not completely hardy.

Hemerocallis. These are called day lilies because the individual flowers are short-lived. The flowers are generally yellow, but there are a lot of hybrids now in richer shades, varying from apricot to red.

Hosta (Funkia). Sometimes called plantain lily. They are excellent for damp situations and the lily-like flowers, growing in spikes, are either white or some shade of violet.

Iris. The best bog iris is *I. kaempferi*, almost identical with *I. laevigata*, but it does not grow in water. There are many named varieties and they can be increased easily from seed.

There are other irises that do well in bog conditions, but there are so many species in this family that only a small selection can be named. Any of the following should thrive and give delight: *I. chrysographes*, grassy leaves and yellow-veined, purple flowers; *I. cristata*, dwarf, with lilac flowers; *I. Delavayi* is a Chinese marsh plant, rather tall, with violet flowers; *I. Forrestii*, yellow flowers and grassy leaves; *I. sibirica*, probably the best bog iris after *I. kaempferi*.

Lilium. A number of lilies like the cool, damp conditions of the bog. *L. canadense*, the Canadian lily, is one. The bulbs should be planted about seven inches deep. The flowers are yellow, but there is an orange-coloured form. *L. pardalinum* is the panther lily. It has spotted orange-scarlet flowers. *L. superbum*, the swamp lily, another North American species, also has orange-red flowers. All these are rather tall, from four to eight feet, according to conditions.

Pinguicula vulgaris. The native butterwort, so-called because the leaves, containing an acid juice, were once used to curdle milk. The flower is similar in colour, shape, and size to a violet. Like the drosera it is an insectivorous plant. It is quite common on marshy hills, but is not easy to move and re-establish.

Polygonatum officinale. Solomon's seal, with its hanging white flowers tipped with green, though not a true bog plant, is very handsome when grown in damp conditions.

Primula. This is a most important genus in the bog garden, giving some of the most showy as well as the most choice flowers we grow there. Many of the family are true rock-dwellers and no attempt should be made to grow them in the bog. At the other end of the scale are many species which are real bog plants. In between are some, such as our native primrose and the polyanthus, which like damp conditions and some shade.

There are hundreds of species and varieties which are suitable for our purpose. Most of them are very easy to grow, though a few are specialists' flowers. The following can be thoroughly recommended:

P. Beesiana, candelabra type, rather harsh magenta colour.

P. Bulleyana, candelabra type, red buds, and rich yellow flowers.

P. denticulata. This Himalayan species, with its round heads of flowers, is now very well known. Shades of lavender, also white.

P. florindae, cowslip type, 1-2 feet tall. Lovely heads of yellow, very sweetly scented. The whole plant is thickly dusted with a white meal (known as farina).

P. helodoxa, candelabra type. Yellow flowers.

P. japonica. Probably the easiest bog primula. Candelabra type in various shades of pink, purple, and crimson. It seeds itself freely so that there is never any shortage of young plants. It should be grown in generous groups.

P. pulverulenta, a slimmer *P. japonica* in crimson. The Bartley strain is very good.

P. rosea. Easy and choice. Cowslip type in a rose colour.

P. sikkimensis. Cowslip type from India. Tall heads of yellow flowers.

Saxifraga. Not many members of the genus are suitable for any kind of water garden. Mossy saxifrages will thrive in cool damp conditions and may be useful.

S. ligulata, the big, winter-flowering plant (pink flowers) will do well on the outskirts of the bog. *S. umbrosa* is London pride, and this is very useful for filling up odd corners.

Spiraea. These are naturally good plants for damp positions. Some are herbaceous and a few shrubs. Of the latter the crimson Anthony Waterer should always find a place. The most showy of the herbaceous species is *S. aruncus*, which grows some six feet in height and bears large plumes of white flowers in summer.

Tradescantia virginiana is nothing like the trailing kinds that are grown for room decoration. It has grass-like foliage and very pretty flowers in shades of white and violet.

Trillium. Woodland plants of the lily family. They grow from rhizomes and have masses of single, three-petalled flowers with three broad leaves beneath each flower. They are lovely, but need to be grown in groups.

Trollius. These belong to the buttercup family and have flowers in shades of yellow and orange. They bloom in spring and often later in the year as well. Our native species is *T. europaeus* which has yellow, globe-shaped flowers. Most nurserymen sell named varieties in a number of shades.

It is taking a risk to plant grasses, however ornamental, in the bog garden, especially if they increase by stolons, for they may soon overrun everything. Bamboos are an exception. They are not hardy in all parts of the country and should be grown away from frost pockets and out of

cold winds. Where they do grow they make very handsome plants, though they are too tall for a small bog garden.

Ferns will often take up quarters without any planting, but they can be introduced into suitable positions, and the native species that can be collected are as good as anything you can buy. The handsomest of them all is *Osmunda regalis*, the royal fern, which loves damp places. It sends up fronds five feet high, but fronds up to eight and nine feet have been recorded. It is a native plant, but is not common and may have to be bought from a nurseryman.

II. Fountains and Fish

A FOUNTAIN is a most attractive feature to have in a garden, and it seems that the natural ornament for a pool is a fountain. This is not always so. If the pool is meant for plants, then it is better not to have a fountain in it. Plants growing in water do better when the temperature of the water is constant, and where a fountain is playing the temperature will not be constant; it will be constantly lowered. Also, water plants, especially water lilies, do not thrive when there is always spray falling on their leaves and flowers.

When a fountain is wanted it is best to plan it as a

feature entirely on its own and construct a separate basin for it. Or two basins could be made, one inside the other, with the fountain playing only in the central one.

By fountain, most people understand the column of water thrown into the air, but in old gardens the fountain often meant the spout of water that ran, waterfall-fashion, into a basin. Often this was constructed in series, the water descending from basin to basin. As a rule such fountains were made for use, the water in the basins being for watering the garden, but they were also very decorative, and Italian gardens in particular seem to have made a speciality of them. Where there is a suitable supply of water they are simple to arrange. Used in an informal way you get the sort of effect seen in the Rock Garden of the Royal Horticultural Society's gardens at Wisley, which has a small stream flowing down through it by way of a number of pools.

If a fountain is to be at all elaborate the water supply had better be installed by a plumber. Water under pressure is ticklish stuff to handle (or there would not be the harvest of burst pipes that every frost gives rise to) and only the professional appears able to handle it surely. A pipe for a fountain can be run off the house supply, or a centrifugal pump can be used. The latter will use the same water over and over again. In choosing and installing a pump the plumber is still our best friend. Efficient pumps can be bought at prices ranging from £5 to £10.

To make a small fountain is not beyond the skill of the gardener-handyman. If there is a good fall in the ground a simple one can be run from a supply tank (such as one might have in a greenhouse) piping the water to the fountain jet through the bottom of the pool in which it is to play. It will seldom be possible to get a very impressive jet of water from this type.

In any kind of fountain it is essential to have somewhere a tap by which the water supply to the fountain can be cut off.

The jet of a fountain will be a nozzle, and it should be adjustable, so that the column of water can be varied in height, and made to play in various ways. A good quality hose nozzle, soldered or brazed into the supply pipe, is really as efficient as any. Once the pipe is in position, some sort of ornamental holder will have to be erected round or over it. Statues, stone fish, and grotesque creatures of all kinds, often most unsuitable, are thrust on the unwary gardener to serve this purpose. In the formal garden a formal shape is most fitting. Sometimes a jet has rocks cemented in a small column round it, but as a rule a fairly severe shape should be used. Elaborate structures of any sort should be avoided except in the largest gardens, and even in them they could often well be spared.

FISH

A pool, whatever its size, should have at least a few fish in it. Quite apart from their ornamental value their presence, especially in these days of stress and strain, is most relaxing. Everybody seems able to spare the time to watch fish swimming around. Also, and this is important, fish as well as plants are natural inhabitants of the water, and they are among the factors which ensure a healthy balance of life in the pool. In any normal pool they thrive happily, need little attention and, though there are diseases from which they may suffer, usually seem to enjoy good health.

If fish are bought from reliable stockists it is very unlikely that they will demand much attention. In a small artificial pool they need a certain amount of feeding, though generally fish are fed too much rather than too

little. In every garden I have had there has been at least one pool, there have always been fish, and I have never at any time fed any of them. They are probably healthier unfed. Provided there are not too many, and it is always better to understock than to overstock, they will find in the water itself all they need to keep them in perfect health. (This does not mean in new pools.) The only trouble is if you don't feed the fish they don't come to be fed. Admittedly it is very pleasing and amusing to have fish that will feed from your hand, but too often that is the way disaster lies.

Their ailments are comparatively few and—those that can be cured—easy to deal with. Overcrowding often results in disease. A rough guide to the number of fish that can be kept is to allow an absolute maximum of an inch of fish (not counting the tail) for every gallon of water. Since fish grow quite quickly it is better to aim at this as a maximum rather than to start with it.

Fish should never be placed in a pool which has not had time to mature, or in which there are not growing plants. Lime in an unmaturing pool may cause fin-splitting, and unless there are plants the fish will not find the shade they love and need during hot weather. Also the water is apt to be deficient in oxygen.

Never introduce fish into a pool without allowing time for the water in the container they have been in to reach the same temperature as the pool. They can suffer shock from a change in temperature whether it is a fall or a rise.

Goldfish will be the first choice of most people. They are members of the carp family and have been kept in this country since the seventeenth century. As well as being very decorative they are easy to tame.

There are specially bred variations of the goldfish which are very attractive to look at in the water but which are

more liable to get hurt. The Fantail, with its shorter body and double tail-fin, is one of the hardiest. The Fringetail, which has all the fins unusually long, is striking in appearance but the fins often become damaged. The Comet has an enormous tail-fin but uses it in swimming and jumping. Another cross-breed is the Nymph, with fins something like those of a Comet, but which has a heavier body.

Shubunkins are characterized by the variety of their colouring, which varies through blue, pink, red, yellow, black, and white, but they are scaleless and are said to be suitable for outdoor pools only in the warmer parts of the country.

The Telescope is a goldfish with protruding eyes. These are easily damaged. Really, they are curiosities rather than beauties.

Japanese fish-breeders have developed carp which are known as Hi-Goi. They are as hardy as the carp, as beautiful as the goldfish, and grow to a large size. There are white forms as well as red and yellow.

Other good fish for the pool are Bitterlings (which breed only when there are fresh-water mussels present), Golden Tench, Golden Orfe, Rudd, and Minnows. Minnows, as well as being attractive in their habit of swimming in shoals, are especially valuable because they hunt out the larvae of gnats and mosquitoes in places where larger fish could not go.

Where there are plenty of fish in the pool they breed, and it is interesting to watch for the tiny creatures to make their appearance. Adult fish eat their fry indiscriminately, so if you want to increase your stock you should net the parents and remove them to another pool.

12. Cement and Concrete

CEMENT is the most fascinating stuff to play with. It is uncomfortably powdery to handle, dirty to mix (always wear old clothes *and* old boots for the job), but once you have it nicely mixed and wetted there seem to be no limits to what you can do or make with it. Here are the mud-pies of childhood to which nobody will object. (But did anybody ever make them? Though I believe I enjoyed mud I never remember the pies.) Here is the sand you dug in and made castles with, only if you make castles of this no waves will ever wash them down. All the boyish longings to play in the dirt that linger into manhood can be sublimated (is that the right word?) with two materials available cheaply at any builder's or builder's merchant's: a sack of cement and a barrowful of sand. Tensions vanish, repressions fly away. I wonder the psychoanalysts have not cornered the cement market for themselves so that they can give it to their patients. It must be the most relaxing material ever thought of.

Cement and concrete have already been introduced in the chapter on the formal pool, and the method of mixing described. Cement is a powder containing lime and clay, which dries stone hard after mixing with water. When the powder is mixed with another material such as sand or gravel the resulting mixture, which also hardens after wetting, is concrete. To some extent the two words are used as one. We often talk about cement when we mean concrete and occasionally of concrete when we mean

cement. As long as we understand what we *are* talking about it does not matter much.

The material is naturally a light grey, and raw-looking when new, but it weathers to a darker, more satisfactory shade. Coloured cements are available and some of the colours are very pleasing; alternatively, colouring powders that can be added when mixing may be bought very cheaply.

Concrete is mixed in different proportions, depending on what it is needed for. The mixture for pools has been given. It is very easy to remember: 1, 2, 3 (measuring by bulk, that is, bucketful). 1 of cement, 2 of sand, 3 of shingle or fine pebbles. The Cement and Concrete Association have issued a very useful leaflet which gives seven different mixtures for garden use, and there is also a table showing what each of these mixtures is suitable for. For general purposes, and perhaps because I am lazy, I find these too many to remember. The 1, 2, 3 is easy enough and serves, as well as for pools, for paths, tanks, pits, steps, garden frames, and incinerators.

Another easily remembered recipe is 1, 2. That is one part of cement to two of sand, and it is the mixture used for finishing pools and tanks in order to render them waterproof.

The other most useful mixtures are 1, 4, and 1, 3, and for my part I am willing to settle for 1 of cement to $3\frac{1}{2}$ of sand, and use this for any of the 1, 4, or 1, 3 recommendations. In theory, I may be wrong, and no doubt for a civil engineer with a Boulder Dam to construct it would be equivalent to deadly sin. But in practice it works very well indeed.

This mixture covers nearly all our ornamental garden requirements. It does for concrete rocks (which can be made for rockeries when real rock is out of the question)

for slabs, crazy paving, formal paving, small slabs for walls, pergolas, and a lot of other purposes covered by the abbreviation, etc.

There are so many things, not all ornamental, that can be done in a garden with cement, that it is difficult to know which to describe. To start with, concrete makes an excellent path. It is easy to lay and gives a clean and dry surface to walk on in all weathers. If the path slopes it should be made in sections with a low step between the sections. A flat surface can be ensured by the use of a long board and a spirit-level. The finished surface should be slightly roughened so that it does not become slippery, either when fallen leaves lie wet upon it, or when it is covered with a thin film of winter ice.

It is usual to lay a concrete path between two boards, one set edgeways down each side. The concrete can be spread on the existing surface if that is suitable, or the path can be excavated before the concrete is put down. With a good firm base under it, two inches is said to be thick enough. It can be laid in sections, completing a few feet or a few yards at a time. It is usual then to finish each portion up to a thin board laid across the path. Where a path of this sort is edged with plants it will not need any further finish and the plants can be allowed to grow slightly over the path.

Otherwise an edging of concrete can be made by pouring more mixture between two long boards set on edge. An easier method of construction is to make the two edges first and then lay the path concrete between them.

A plain concrete path is a good path. It is not, even when it is made of coloured cement, a very decorative one.

A more attractive path to look at is crazy paving. This, in concrete, is something of an imitation, since the first crazy paths must have been flagged paths made that way

only because it was the clear and logical way to use the materials (flat stones) that were available. At the same time a path made of differently-shaped pieces of concrete is much more pleasing to the eye than a plain expanse of it.

There are two ways of making irregularly-shaped stones for crazy paving.

The first method is to set out two lengths of board on edge and parallel to each other. Between them spread a thin layer of sand. On this sand spread a layer of concrete. After a couple of hours, when the concrete is setting, mark it into the shapes required—preferably with the straight edge of a board—with the point of a sharp trowel. Mark it to about a third of its depth. If the concrete is too wet and the marks close up, leave it for a few more hours and then mark it again.

The concrete is now left for a day or two. It can then be lifted and broken along the trowel marks.

A simpler, but almost identical method, is to make the crazy paving on the path on which it is to be laid. The advantage of this is that later, when it is broken into the separate pieces, they can be laid at once where they are, and this avoids the necessity of working out the jig-saw of which piece can go where.

As a rule a path of this sort is best set level with the surrounding soil (rather than with a concrete curb) so that plants can grow up to and over it.

Crazy paving should always be set firmly, in sand or ashes for preference; the craziness must never extend to rocking to and fro. Sand can be brushed over to fill the cracks between the stones, or the joins can be cemented. Coloured cement joints give an attractive finish.

Crazy paving is also suitable for use on courtyards, or on the flat treads of wide flights of steps.

A more formal finish is given by the use of concrete

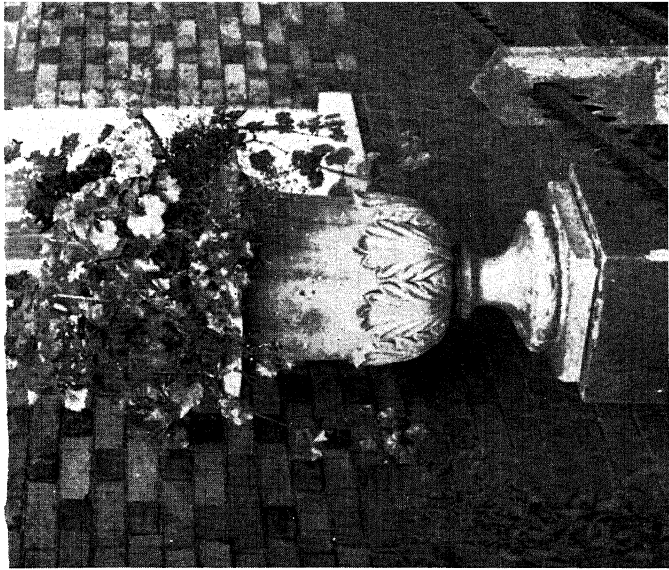
slabs. As shown in Pl. III, two sizes will be needed. Except in very small gardens, paths made of slabs give a good effect when the slabs are large. There is no point in being dogmatic about size, but remember that big concrete slabs are heavy to handle; rectangles about two feet by eighteen inches give a very satisfactory appearance when they are laid. Slabs half the length are needed for the sides.

If slabs of different sizes are used there is a wide variety of patterns in which they may be laid, some of them having traditional names, Norfolk, Flemish, Dutch, and so on. It is doubtful if the more intricate patterns are as satisfactory to look at as the simple path, made in slabs of two sizes, shown in Pl. III.

A path of cement slabs may be laid in sand, in ashes, or in soil if it is light and well-drained and can be made fine. A spirit-level should be used to make sure the surface is flat. The joints can be left open if desired and sand brushed in between, but if there is the least risk of the slabs rocking when walked on they should be cemented.

Rectangles of concrete in small sizes (concrete tiles) are not as useful for paths as large ones are, but they have a wide variety of other uses. They are made in exactly the same way as the larger slabs, that is, from a layer of concrete set down on sand, or wood, or in any suitable place; they can be a little thinner, but the trowel markings are done in the same way. Size is a matter of choice, and depends to some extent on what use is to be made of the tiles, but very convenient sizes are ten inches by six inches, and eight inches by six inches.

These tiles, or bricks (they can be made the size of bricks if required) can be used for building low walls, cemented or uncemented, ornamental boxes to hold plants, low wall surrounds for formal pools, flights of steps, low



ix. (*left*) Stone vase, Wisley. (*right*) Stone vase containing flowers.



x. Lead cistern and lead figure, Courtfield, Ross-on-Wye.

pillars on which to mount seats, tall pillars on which to build pergolas. Made in a small size they are useful for building the column supports for such ornaments as bird-baths (Pl. V), bird-tables and sundials (Fig. 4). In fact, in one way or another, they can be complete substitutes for flat stone, or bricks.

In the making of ornaments such as bird-baths and

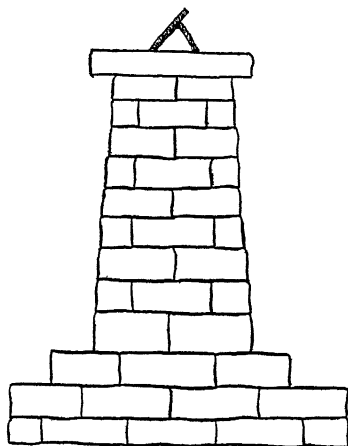


FIG. 4. *Section of support for bird-table or sundial*

sundials it is best either to go by a picture (drawing or photograph), or make a sketch of what you require the finished product to look like. The great essential in a column of this sort is that it should never be top-heavy, therefore there must be a taper in the column itself. A broad base is essential (one of the heavier cement slabs could be used); whatever is used for the top—bird-bath, bird-table, or plant-holder—should not be larger than the base.

Generally a square column is easier to make than a

round one. Round columns are often cut from stone. Firms who make concrete ornaments sometimes use round moulds, but for the amateur a rectangular mould which tapers is easier to construct.

The top of such a column should be perfectly flat, and to give it firmness one or two flat layers (concrete slabs, perhaps) should be strongly cemented before the final top

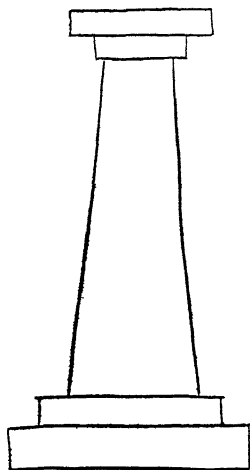


FIG. 5. *Sundial design in stone, or concrete tiles*

is fixed on (Fig. 5). If the column is meant for a sundial the platform on top can be quite small. A bird-table can be made of a larger slab.

A top for a simple bird-bath can be made in a square box, with the help of an old enamel bowl. The box is filled with concrete, and while this is soft the bowl is pressed into it as in Fig. 6. If attention is paid to proportions (do not use a tiny bowl in an enormous box) the resulting bath is a much more presentable construction than you would

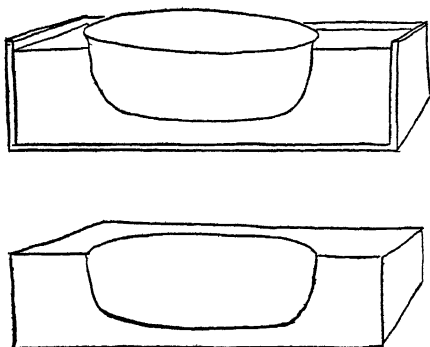


FIG. 6. *Bowl for bird-bath from bowl set in box of concrete (section)*

expect from such primitive materials. In a bird bath of this sort (when finished) it is kind to place a flat stone in the water so that the birds can reach it easily.

A popular core for a bird-bath top at one time was an old dustbin lid. This sounds the most unlikely material, but it really made a very attractive bath. Holes were punched all over it to act as a 'key'. It was then set in the ground and the concrete spread over one side. When that had hardened it was turned over and concrete spread on the other side. Ledges could be introduced into the inside of the bowl from which birds could reach the water.

The table in Pl. V is a miniature rock garden for growing many different species of *Sempervivums* (Houseleeks). It was erected on a column that had once held a bird-bath. The concrete top was made in a shallow box. A piece of wire netting was placed in the concrete to give strength, and a few stones were inserted on top while the cement was wet. The Houseleeks grow in a thin covering of soil laid on the table top.

I have seen a similar table garden for succulents made

from an old slate slab which had been a doorstep. In this case it was mounted on four stones, one under each corner. A similar miniature garden could stand on four pillars, which could be of bricks or cement slabs, high enough to bring the garden pleasantly near eye level.

A pergola is a very striking feature to have in any garden. The position for it must be chosen with some care, for it should not just be placed anywhere, but lead naturally from one part of the garden to another. In a small garden great care must be taken that it does not throw everything else out of balance. In fact, it is not perhaps the best ornament for a small garden, though it could well, in a restricted area, be made a garden on its own.

A pergola consists of a series of pillars (preferably on either side of a wide path or walk) joined overhead by a framework that could be made of light metal, but which is generally of wood. Plants are grown on the upright pillars and trained over the upper framework. This type of garden ornament is very ancient. Pergolas have been pictured in Egyptian tomb-paintings with vines growing over them. All down the ages they have been popular in one form or another. They only lost their popularity when the landscape school were tearing apart everything that did not look as if it had been put up by nature. They came back into favour in Victorian days.

It has already been suggested that the pergola, as well as being used to grow plants on, should have a purpose in the garden. It should, preferably, lead to some other feature: to the rose garden, to the pool, to the summer house, or to a garden seat, or to the sundial.

It is only worth having a pergola if it is really well made. Nothing makes a pleasanter or more imposing support for climbers, but it must also be remembered that no structure, under the weight of rain and plants, and with a strong

wind tearing at it, will collapse so readily. Too many gardens after August storms have been littered with the remains of rambler roses and the wreckage of insecurely erected pergolas.

The actual construction is not difficult. First choose sites for the pillars, which should not be too far apart (in line). The pillars themselves can be of pre-cast concrete, of brick, or of small stones.

As good material as any, and very pleasing when finished, are small concrete slabs or tiles (Pl. IV). The pillars are comparatively easy to build of these with the help of squares and plumb lines. It is usual to start each pillar on a six-inch deep square of cement. Each pillar is not completed before passing on to the next, but first a little of one is built, and then a bit of another and so on. In this way, using lines, anyone with a fairly good eye is certain that they are vertical and in parallel rows.

For the overhead timbers use oak if possible. It is false economy to use wood that will rot in a few years' time. Whatever wood is used make sure it is well treated with a preservative material, such as creosote. Lay the main timbers along from pillar to pillar, bolting them into the cement in each, between the slabs. Lay the cross-timbers, which may be smaller in section, and therefore lighter, from side to side, and bolt or screw them into the lengthwise beams.

This then, briefly, is the framework on which you can grow rambler and climbing roses, wisteria, forsythia, honeysuckle, clematis, and all the rest of the lovely tribe that like a support to wander over. And if it is made well neither the blizzards of winter, nor the sulky rages of summer will so much as shake it.

13. The Use of Stone: The Rock Garden

I WAS brought up in a little seaside village that was separated from the sea itself by a long pebble ridge which contained stones of, literally, every size from many tons downwards. Most of the village cottages had been built of stones from that ridge: as a matter of interest, the mortar they used contained sea-sand, which was the reason, they said, why almost every house had damp walls through all the wetter months of the year. When a villager wanted an extra bit of building, a pig-sty, or a small shed, he collected the stones for it from the beach; if he wanted a clean, dry path through his garden he selected the flattest stones he could find from the same source; if he wanted a wall, dry or mortared, his material was at hand at the cost of energy and a wheelbarrow.

All that explains why I could never look on good stone, and plenty of it, as a luxury, or even as something to be thankful for. It so happened when I began to garden that I found plenty of stone in the garden and I didn't give the matter much thought. I just accepted it as natural. Sometimes there was too much of the stuff. If you dug really deeply you were almost certain to come on a hefty rock or two that took hours to shift. But there was generally a use for it, and the pieces that weren't wanted could always be dropped in a hole in the hedge.

It still comes as something of a shock to visit gardens

in which there is no natural stone at all. It used not to make sense to me to be told a particular feature was out of the question because the stone was too expensive. Stone had always been something to pick up, not to buy. But after more intimate acquaintance with gardens that can boast nothing more than a handful of flints I understand better. Flint is good building material, I should think, seeing what has been done with it in parts of southern England, but it is, except perhaps as edging for a flower bed, poorish stuff in a garden.

Town gardeners, as a rule, will not find themselves embarrassed by too much stone, but on the whole I should think more country gardeners can get stone cheaply or for nothing than can not. For those who cannot get it, concrete is a very useful substitute. Perhaps substitute is not the right word, for it is a good material in its own right.

If you have stone, picked-up, begged, or bought, at your disposal you have the means of introducing a large number of interesting and beautiful features. The first and most obvious, certainly the most important, is a rock garden.

There are so many good books on the making and maintenance of rock gardens, so many articles on them in the gardening press, that it is not intended to go deeply into the subject here. But long books and detailed instructions apart, though some writers would have you think otherwise, there is no mystery or great difficulty about rock gardening.

There is one thing a rock garden is not. It is not a thrown-up heap of soil dotted with stones and planted with small-flowered plants varying from aubrietia and mossy saxifrage to snapdragons and blue lobelia.

At its best a rock garden is a substitute for mountain slopes, in which you can grow the tiny plants which do

grow on mountain slopes. The rocks themselves are not (or should not be) there for ornament. They really are needed. They provide shelter, and there are cool rooting conditions under them. More artificially, they separate the plants from each other and provide pockets in which the different alpinists can be segregated.

The best site for a rock garden is on a slope. If possible it should not be near the shade of trees. It is an advantage if the site can provide different compass directions, because some alpinists like full sun, some partial shade, and quite a few of the most interesting grow best with no sun at all.

A rock garden should have a portion of the main garden all to itself, if it can be spared. That is, it is better not stuck down in the middle of a number of other sections of the garden, not between the herbaceous border and the rose garden, for instance. Even if it is only a small one, it is best seen on its own without distractions. Examples of rock gardens can be seen at Kew, or in the Royal Horticultural Society's gardens at Wisley. It is nearly always possible to emulate this separateness to some degree.

The rocks on the mountain slopes are generally small sections of outcrop, and we have to try to get the same general effect in the rock garden in two ways. First, by burying the rocks deeply, and secondly, by arranging any grain or strata so that it runs throughout the whole garden in the same direction. Strata, or lines, in the rocks must not point haphazardly in all directions. Sometimes there are no strata apparent; there are none in the rocks I find in my own garden. In that case the stones are nearly always long and, more or less, narrow, and they can be fitted into the scheme with the longer axis across the garden.

There is a happy medium in the amount of stone to

be used. Unless you can afford to have a 'natural' garden built for you containing tons of carefully-chosen stone, with only minute pockets for aristocratic alpine (one that looks as if it really is a section of mountain), beware of too much, or too little. Most of us have to manage, indeed often prefer to manage, with what material we have to hand. Do not set your stones so closely that the eye is greeted with what looks like a landslide, and on the other hand do not set them so far apart that there are wide expanses of soil to be filled by plants. For the majority of us, I do not think the bigger rock gardens (such as Kew and Wisley) are good models. Excellent as they are in their own settings they are constructed of ideal rocks of ideal shape and size and, an important point, of a chosen texture.

I have had one large rock garden on a natural site, a kind of disused quarry, and a number of smaller ones, so I have learned by experience, and sometimes by humbling experience. In the small garden build slowly and, at first, experimentally. Stop often to view and study, pull down whatever does not satisfy, and rebuild. In the small garden the rock garden is a compromise. It is artificial yet we want it to look natural.

If the rock garden is to be more than pocket-handkerchief size remember that it will be necessary to move about it, either to work, or to admire. For the gardener himself to get about it is a simple matter to move from rock to rock, but if visitors are to be shown round then something needing a little less acrobatic agility should be devised. Perhaps the most suitable form of path is one made of flat stones sunk in the earth to their edges and arranged as a sort of shallow stairway. This path should not be in any way formal and will look better winding rather than straight.

Nothing has been said about the soil. The point is that

most of us must make our rock gardens on whatever soil is on the sites we have chosen for them. We can, though, improve poor soils. There are certain rock plants, often very lovely ones, which require special soils. Some gentians will only grow in peat mixtures and will not tolerate any lime at all, while on the other hand some plants in the *Dianthus* family (which contains all the Rock Pinks) will sulk without plenty of lime. But apart from the exceptions most rock plants manage very well in any light, well-drained soil. (Good drainage is very important.)

But there is another important point, the soil must be fertile. I made many a mistake in my first rock garden because I took too seriously the warning that alpinists, especially choice alpinists, must never be fed. I took it so seriously that quite often I starved them. I think rock plants, the same as any others, do exhaust the fertility of the soil, and I think that fertility has to be renewed. The plants do not need dressings of artificial fertilizers, or fresh animal manure, or liquid manure. They do benefit from annual top-dressings of powdered leaf-mould. Peat is often recommended, but it contains very little in the way of plant food. Another top-dressing I have found good is compost that has been passed through a fine riddle. Yet another good tonic is the previous year's chrysanthemum compost, also sifted, when the old plants are being discarded. With most rock plants it is enough to sprinkle the top-dressing over the plant generously and work it down among the leaves and crowns with the fingers. The next good fall of rain will do whatever else is necessary.

I regard this question of the feeding of rock plants very seriously. Three-quarters of the rock plants in the country are starved. The question is always being asked: my so-and-so does not flower as it used to. What can I do about it? The answer, nine times out of ten is, *Feed it*.

There is the matter of choosing plants. Rock plants are usually grown in pots so can be put out at almost any time of the year. Most gardeners will have their own favourites and need little guidance in selection, but there are always the beginners among us who are bewildered by the choice offered. It is for them that the following list of twenty-five good plants is offered. These are *not* The Twenty-Five Best Rock Plants, or anything like it. They are a choice of easy, interesting ones that could be used as the nucleus of a collection.

If you want colour there are four, aubrietia (purple), arabis (white), mossy saxifrage (pink or red), and alyssum saxatile (yellow), which should always be given first place. They are all common and the Alpine purist would probably not be seen dead with them, but they are reliable and almost foolproof, and pretty into the bargain.

Here are the other twenty-one.

Aethionema. Warley rose. Pink.

Anemone appenina. A lovely blue anemone.

Arenaria maritima. White, sometimes called the whitest white flower.

Armeria, or thrift. Deep pink.

Campanula muralis. Blue bell flowers.

Campanula pusilla. A variety with drooping bells.

Dianthus caesius. The Cheddar pink.

Dianthus deltoides. A tiny pink, 4 inches high.

Erinus alpinus. Purple. A tiny alpine that should be grown from seed, as you need plenty of them.

Gentiana acaulis. Many gentians are tricky to grow, but if the blue trumpets of this species flower for you, you will never regret planting it.

Geranium sanguineum. Pink.

Gypsophila repens. A trailing variety, white or pink.

Helianthemum. Sun-roses (various brilliant colours).

Iberis carpatica. A perennial candytuft. White.

Iris pumila. A miniature iris. Various colours.

Lithospermum prostratum. Heavenly blue. This is not always easy to grow, but it does well in pure leafmould or peat, and sand. Brilliant blue flowers.

Phlox subulata. The variety *Temiscamis* is a brilliant crimson.

Saxifraga apiculata. To flower in winter. White.

Saxifraga cochlearis (or any of the encrusted or silver section).

Sedum album. To make a neat mat quickly. White.

Sempervivum, or Houseleek. There are hundreds of species, but the names are rather a mix-up.

S. arachnoideum is attractive, being covered with 'cob-webs'.

The trouble about making a list like this is that one wants to go on adding to it. That is exactly what you will do for yourself if you are a newcomer to rock gardening.

14. Walls and Paved Beds

THE EASIEST rock garden to make is a wall garden. It cannot be considered in any way to be a 'natural' rock garden—if there is such a thing—but in some circumstances it is an improvement. The rock garden, as it were, tries to look as if it had not been manufactured; the wall

garden, without pretension, is constructed, looks constructed and, unless it is very badly made, is attractive in appearance, into the bargain (Pl. VI). Not having to pretend to be something it is not gives it a good start in life.

My own wall garden has a purpose. It was made to support a sloping bank of earth which, without a wall in front, would have been practically useless. A lot of the stones in the garden had been placed at the foot of this bank, which falls away from the front of the house, presumably to prevent the bank crumbling away. No attempt had ever been made to arrange them. It is just possible that once, long ago, some rock plants may have been planted among them. If so they had been choked out very thoroughly. When I took over we had rocks in winter and a very lusty collection of briars, brambles, and coarse weeds in summer. The bank faces west. I would have liked it to face south, but one cannot have everything.

We dug up the stones and dragged them from their places on to the path below them. A line was placed in position to mark the path's edge. The soil above the line was removed to allow a row of stones to be made. This was the base of the wall. Now, with mattock and fork, the soil behind the stones was loosened and pulled down until it was level with the stones. While this went on the soil was cleared of the weed roots.

The second layer of stones was laid on the first, not immediately above to make the wall vertical, but very slightly behind so that it sloped back a little. Another battle with the soil and weeds followed. With two layers of stones in position the wall plan is unmistakable. One is able to arrange stones so that they match their neighbours, and alter where the backward slant is not quite right. Another row of stones and another drawing forward of

soil. And another . . . until the wall is high enough, and above it there is a gently sloping bed. On this is placed the soil that was first removed to make way for the first row of stones.

Dry-walling is fascinating, very rewarding, and not too difficult. Or, if it is difficult, you learn as you go along. There are a few important points that have to be watched.

The heaviest stones should be at the base of the wall. This ensures that the wall will not collapse through too much weight on top. Another point is that the slight backward slope—'batter' is, I think, the correct term—is important. It prevents the soil from pushing the wall over as it settles. The amount of slope will depend on taste, but also on the size of stone used. With large stones the degree can be slight; if the stones are small it should be greater, or again the settling soil will push them out of place.

Many rock plants will grow much better in a dry-wall than they will in even the best constructed rock garden; not only the hearty growers that thrive anywhere, but those listed as needing extra care. What most of these need is perfect drainage. They are difficult to grow in our gardens, not because the weather is too cold, but because it is often too damp. In the shelter of a wall, with moisture always draining away, they are as well-suited as they can ever be away from their natural homes. It is really amazing how many plants which have a reputation for being difficult will thrive in the crevice of a wall. In the damper parts of the country I would go further and say that it is a waste of time growing choice alpine in a rock garden when there is a wall where they can be offered a home.

In theory, it is best to plant as you build, but in practice it is almost impossible to do this to any extent. While building is going on there is bound to be a certain amount of alteration, and soil getting in places where it should not

be, the tools falling, and so on. The best second-best is to plant after the wall is completed, to plant very firmly, and to put in only young plants. It is a great temptation to try to clothe the wall quickly by using large, well-developed plants from some other part of the garden, but doing so is generally a waste of time.

My own wall was made mainly of large stones, boulders many of them. The thin, flat stone used in Cotswold dry-walling makes excellent walls for gardens, and the finished effect is particularly neat. I do not think, though, they are as suitable for building high walls as my own are, because, being much lighter, they are more easily displaced by much weight of soil.

The small, flat stones are especially good for making low walls, either dry, or cemented together, or for two low walls with a bed of soil between, making a sort of flower-box of stone.

Variations on methods suggest themselves to everyone from time to time. A pleasant method of joining two levels, seen in the garden of the Fox and Hounds at Crawley, near Winchester, is shown under construction in Pl. VI. Here a main wall splits off into smaller walls to enclose irregular beds. A path and low steps of the same stone lead through this wall garden from the lower level to the top.

Another variation is shown in Pl. VII. Here the stone (broken paving in this case) after being used for a low wall to enclose a bed against a brick wall, has been built up round the bole of a large horse chestnut. In this bed bulbs are grown in spring and annuals in summer.

It would have been possible here to build the stone in a rectangular shape, place a slab on it (or cement the top), add some form of back rest and so make a seat. In fact, the many gardeners who have an old tree in the garden

and wonder what to grow under it, might consider abandoning the often hopeless attempt to grow things in such deep summer shade and make a seat instead. Such a seat would be all the more ornamental if it were surrounded by paving, preferably of the same kind of stone.

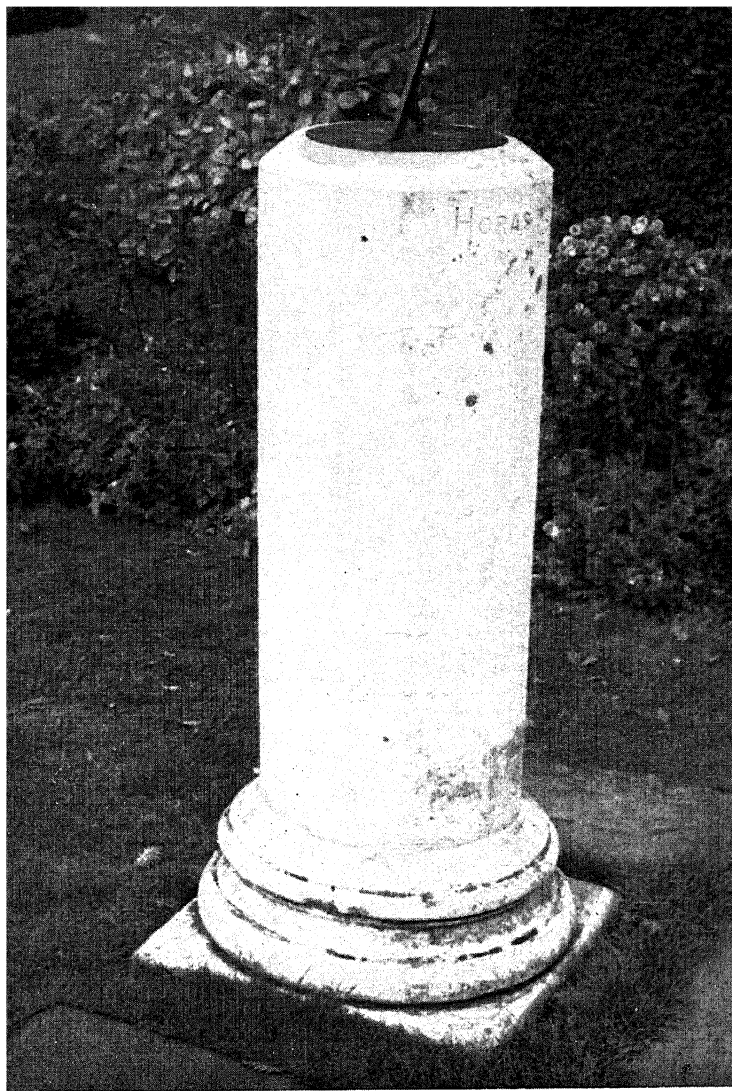
THE PAVED BED

I came on the paved bed quite accidentally some years ago when I was a complete beginner in gardening. For years afterwards I imagined I had invented this method of growing alpinists. I am no longer so vain, but I have still not seen in any rock garden a bed planted quite as mine was.

It was all so simple. I had a large flat bed of shallow soil, over a bed of shale, which would grow bulbs in spring, but which dried out so completely in early summer that not even the toughest of annuals would survive. At one corner was a pillar on which I tried to grow that most rampant of all rampant plants, the Russian vine, *Polygonum baldschuanicum*, and even that could barely hold on to life.

Turning over some stones in the rock garden one day I was struck by the coolness and the amount of moisture under them, also by the way the roots of many plants matted against them. I happened at the time to have a supply of flat stones handy. With these I paved my dry, arid bed.

I found the paved effect pleasant to look at. Since the stones were uneven in size it was crazy paving. In a number of the spaces where the stones did not meet I planted some spare rock plants. The result was both interesting and surprising. The plants began to grow at once. They grew so vigorously that in a short time they had to be clipped back with shears to prevent their covering the stones entirely.



xi. Sundial on pillar.



xii. Old cider-mill.

This type of bed makes a good feature quite close to a house. In fact I have seen it used to good effect right against a small house, so that you stepped through french windows directly on to it. It thus served both as a modified path and as a courtyard, or small patio. This type is better for being severe in shape, rectangular perhaps, with the far edge parallel to the wall of the house, though a regular curve would not be displeasing. It can be bordered quite easily by some other feature of character, such as a lawn, a low wall, or a fairly formal rockery.

Provided the stones of the paved bed can be set with absolute firmness, so that it is comfortable and safe to walk on, no extra finish is required. Plants can be put in, not to cover it, but 'dotted' at irregular intervals, and on the whole, the smaller alpine, especially the tufted ones, look better than those which spread too rampantly. Weeds that appear in the crevices can be killed off as soon as they show themselves by watering them with a weak solution of sodium chlorate. Care must be taken that none of this touches the plants. The alternative is to cement over all the cracks and spaces except those in which it is intended to grow alpine.

15. Sinks, Troughs, and Vases

SINKS in various shapes were once made of sandstone. It is difficult to imagine they were ever used in houses, since it must have been almost impossible to keep them

clean, but they were, I know, for my own I removed from the scullery of an old country house where a more modern one of glazed porcelain was being fitted. More generally, I imagine, they were used out-of-doors, under pumps in such places as stable yards, and the heavier stone ones were drinking troughs and feeding troughs for animals.

The use of a small stone trough as a pool for a few tiny aquatics has already been mentioned, and is illustrated in Pl. I The most usual thing to do with an old stone sink is to make a small alpine garden of it (Pl. VIII). Obviously, a sink with a drainage hole is the best to use for this.

The first thing to do (having secured your sink or trough) is to select a site for it. This is rather important, because these things are shockingly heavy, and once filled and in place no gardener will want to move one for fun. So put it where it will be an ornament, where it will blend with its surroundings, and where it can be seen and examined in comfort. If it is possible to raise it to eye-level safely (where it will be in no danger of falling) do so; otherwise a spot such as the top of a flight of steps is suitable.

Never waste a sink by making it a home for the commoner alpine, which will grow quite happily elsewhere. Because such factors as soil, drainage, and protection from weather are easily controlled it is possible to grow some of the more difficult subjects in it. They should be chosen from the smaller and lower-growing alpine, though one or more taller plants, according to the size of the sink, should be used to vary the height and make the layout more interesting. The miniature evergreens (*not* the dwarfed conifers grown in pots) are excellent for this purpose.

Once the sink or trough is in position a layer of broken crocks, or rough stones, is put in first for drainage. Be

generous with this, allowing up to a quarter of the depth for it. Over these large pieces put another layer of smaller stones or chippings and then fill the sink with the chosen compost. This must be mixed according to what you intend to grow.

You cannot, for instance, grow lime-hating and lime-loving plants in the same sink. If you decide on the tiniest members of the *Dianthus* (Pink) tribe, or some *campanulas*, then plenty of lime rubble in the compost will be in order. If you want some of the gentians that curl up and die at the very mention of it, or will use a few miniature rhododendrons as your trees—then *no lime*. But in either case have an open, freely-drained compost—which means plenty of grit and sharp sand.

Some people plant their sinks on the flat, that is with all their plants on the same level, but the most attractive arrangement is to have a few rocks set in the soil, arranged as if the sink were a tiny rock garden. This not only looks well, but the rocks do keep the plants apart, and, even more important, they provide cool, moist root-runs for the roots of the tiny plants. Crevices can be arranged for alpine plants that like to grow in them, and, if the sink is a fair size, a large rock will provide shade for anything that does best out of the sun.

The choice of plants is wide and can be made from a specialist's catalogue. Some of them offer collections for sinks and troughs, a boon to busy gardeners, though it is always more fun to hunt out things for yourself. The inevitable mistakes can be corrected later. Here are a few suggestions.

Nearly all of the *Kabschia Saxifrages* are suitable, and generally they grow better for the inexpert in the sink than they do in the rock garden itself. There are also some of the smaller silver *Saxifrages*, such as *Sax. cochlearis*

minor, which grow into neat, tight little hummocks. *Sax. oppositifolia* makes a mat on the level, and bears large purple flowers in February. Another attractive one is the miniature London Pride, *Sax. umbrosa primuloides*, which is quite small and does not spread rampantly.

Androsaces are lovely in the sink garden. *Androsace arachnoidea* is the first choice, but there are others, a few of them not too easy, such as *A. villosa*, *A. pyrenaica*, and *A. helvetica*.

Armeria caespitosa is a tiny matted Thrift, growing in tight clumps with heads of stemless pink flowers.

Campanula zoysii is the best of the bell-flowers for this position, growing only an inch or two tall. Slugs seem particularly fond of it.

Dianthus neglectus is a good Pink for the miniature garden, but do not forget the very easy *D. deltoides* which, though showy, never outgrows its welcome.

There is a charming Forget-me-not called *Moltkea petrea* and another, *Myosotis rupicola*. Room could be found for some of the smaller rock Primulas and there is a wide choice of uncommon Sedums (Stonecrops) and Sempervivums (Houseleeks).

One of the best evergreen trees is *Juniperus hibernica compressa*, but there are tiny Pines, Cypressess, and Spruce. Another evergreen is a Yew, *Taxus baccata pygmaea*, which grows about half an inch a year, and there is a tiny, gnarled Willow, *Salix Boydii*, which increases at about the same rate.

VASES

Vases are not everybody's cup of tea. I mean, of course, not flower vases, but the often ornate, decorated stone vases which were used freely as ornaments in Victorian gardens. The point about them seems to be that they

generally graced enormous grounds and estates. They stood on terraces; they were placed on each side at the tops of enormous flights of steps; filled with geraniums and calceolarias they flanked long gravelled drives where noble horses harnessed to shining carriages pawed the ground impatiently as they waited for ladies under silk parasols to take their afternoon drives. (If you haven't forgotten your *Black Beauty* you may recognize the scene: 'Hitch those horses' heads higher, York, they are not fit to be seen!')

In preparing this book I must have looked at hundreds of vases, and very, very few have I felt any desire to own. A vase of plain shape like the single stone one that stands at the head of some steps at Wisley I like very much (Pl. IX). That particular one is ornament pure and simple. In a garden devoted to good garden plants it remains empty and unplanted. Not that they look any the worse for having plants in them. The ones flanking a door at Courtfield (Pl. VII) looked right, and here and there you come across them, simple in shape, plain of line and satisfying, but the majority are enormous, unwieldy, over ornamented, and often unsuitably planted. The plain ones fit in anywhere, or almost anywhere. They can be used as the point of focus at the end of a long path, at the head of steps, to break the uniformity of a large lawn, or even as a centre-piece for a flower bed. The ornamented types seem to me to be period pieces, and I expect you have to live with them to like them. Badly placed, they can look horribly wrong.

Beware how you plant a vase. Never, I think, with small alpines. Most that I have looked at have been smothered with bedding plants; scarlet geraniums, trailing geraniums, petunias, ageratums, lobelia, white alyssum. All these are good in their place, but their place I think is not in the

vase. That is adding Victoriana to Victoriana. I would choose trailing plants myself, something that would hang down gracefully and soften the outlines: subjects such as arabis, aubrietia, cerastium, and Saponaria; and perhaps rock roses with their vivid colouring would harmonize all right.

The best vases were made of stone (by hand, I expect), and the decorations outside were carved. In the worst examples the carvings were too ornate and flamboyant. Cheaper models presumably were cast in moulds, and some were made of terra-cotta and earthenware.

It is possible for the amateur gardener to make his own of concrete, but the question of a mould should be considered very carefully. A vase cast in a bucket has a tendency to look like a concrete bucket—all right if you want an outsize flowerpot, but not exactly a garden ornament. Plain and pleasing shapes can be made in wood. Of course, two moulds are needed between which the concrete can be placed, and it is important to remember that the inside skin will have to be removed as well as the outer one, or you find yourself in the position of my friend who spent a wet day making a chicken house in the barn, and then found he could not get it through the door. On the other hand, remember that the inside of the mould does not have to be exactly identical in shape with the outside. To take a simple example, you could make a perfectly cubical vase in a cubical box, but the hollowed out portion might be made by a polythene bucket.

As for ornamentation the professionals have it every time, and on the whole it is as well to leave it in their hands, even though those hands produce nothing more jolly than tombstone Grecian.

If you feel exterior decoration is essential you can probably add a little moulding with a stiff cement. Ever

since man first made pots he has wanted to decorate them, so in the bits we add to ours we are only following a very ancient tradition. If cement ornaments are removed from their moulds before they are too hard, some form of decoration can be carved or scored on, though the work must be done carefully, for drying cement can easily be spoiled. Some incisions of this sort, done in traditional forms, I feel hold out the best hopes to the amateur. As for copies, of sources of inspiration there are scores—bad as well as good—everywhere. The easier ones are usually the best. Such simple designs as a line curving up and down evenly round the edge of a bowl, or two rows of dots running alternately will break up too plain an outline quite pleasantly, and all elementary forms of decoration can be elaborated in a multitude of ways.

Ready-made period stone (and imitation stone) vases are by no means impossible to come by. It is far better, and infinitely cheaper, to go seeking your own than to go to a dealer in such wares. They are often to be found in junk shops, builders' yards, breakers' yards, and such-like places, where they can be bought at a reasonable price as long as you don't look too openly as if you have found the one object you have been seeking all your life. Another fruitful field is the country-house sale. This is where the dealer generally gets his specimens, and often such items as lead cisterns, sundials, broken columns, fountains, and stone seats. As a rule he gets them cheaply by purchasing a large quantity (much of it rubbish and worthless). He will have to hire a lorry or a number of lorries to carry his spoils home and he will have to hire labour to manhandle it. Taking into account the items he could never hope to sell, perhaps we should not grudge him his profit. Even if nothing comes up that you can buy singly for a song the dealer will sometimes sell you reasonably the one

item you fancy out of his haul. But one word of warning: you will probably need to have it taken home by lorry. Even one stone vase is more than the springs of an average car could be expected to bear.

16. Sundials and Bird-baths

MANY OF the earliest sundials were erected on vertical walls. There are examples to be seen on old buildings in all parts of the country. It is doubtful if one could consider them as garden ornaments. On the other hand the ones mounted horizontally on different forms of stone pillars are probably among the most popular garden ornaments there are. They can be bought cheaply or made easily by the handiman. The gnomon, or plate with the vertical arm that will cast the shadow, is better bought ready-made, though there is no reason why an amateur metalworker should not make his own. The choice of pedestal on which to mount the gnomon is wide. The principle is the same in most pillars: a firm, heavy base, consisting of perhaps a couple of steps, then the column, plain or ornamented, round or square, and then a small horizontal table on which the gnomon is fixed.

In some public gardens at Winchester a gnomon has been mounted on a single round stone pillar (Pl. XI). This is a very satisfying form and one many amateurs

could use, since it is often possible to pick up cheaply a length of an old stone column. A narrow stone roller would do, for instance. I have seen such rollers abandoned in the corners of farmyards; and of course the making of a pillar in concrete (coloured for preference) would be a simple matter. To keep the proportions right the pillar should not be too thick in comparison with the size of the gnomon. For example, a small gnomon mounted on the end of those concrete rollers that graced Home Guard road-blocks during the War could not look anything but ridiculous. (Why has nobody *ever* found *any* way of making those massive jam-jar chunks look attractive?)

Another important point is that the pillar must be set firmly upright in the ground, and the gnomon must be horizontal on top of it. We hardly expect to catch trains by the time told by sundials, but at least they should not deceive too blatantly.

I have seen at least one sundial fixed on a wooden column. The date on the gnomon was early eighteenth century. No doubt the pillar had been changed in that time, but at least it had stood many, many years, for it was by the door into a church and none of the parishioners could remember when the dial was put in place. I think a strong post, of oak, or, better still, of teak, would not look out of place and, if soaked in creosote, would last. A sawn-off tree might make a suitable stand, but I don't think any species of tree would do, and one that had died of old age or disease certainly would not.

An alternative to a one-piece column is one built of small stones. I suppose Downland flints in cement would be in keeping in certain areas, but I am thinking rather of flat stones, paving stone, Cotswold walling stones; even, though I do not over-like its cold greyness, thick slate. This sort of column should be started from a firm, square

base of generous size, either paving or a single slab. Diminish to one or more smaller platforms, then build the little pillar, which can be perpendicular or taper slightly. For the table on which to mount the gnomon I favour a single rectangle of stone if this can be found. The gnomon can be bolted to it. Use a plumbline and a large square in building the pillar, and watch as work progresses for any deviations from the upright—or the regular taper. Better alter as you go than have to pull the work to pieces and start again!

The making of such a mounting is such a simple (not to say relaxing) task that it seems hardly possible to go wrong. But to help the instructions a simple section drawing is given (Fig. 5).

To some folks the very sight of a sundial is sufficient reminder of the passing of time; others enjoy the homely couplet, the jingle, the engraved motto. It is all a matter of taste, but I think this part, like the gnomon (except to the metal worker who has tools and ability for the job) is better bought. Whatever words are chosen the most suitable medium for them is engraving on a metal plate (the same metal as the gnomon, for preference), and this can be fixed either flat on the table holding the gnomon, or round one or more of the edges.

BIRD-BATHS

Any of the pillars that are suitable for sundials are suitable for bird baths. There is a tendency to look on bird baths purely as a decoration and to forget that they have a use. For used they are, and if you watch them it is amazing to find how much and how often. In hot weather the birds bath in them; in cold weather they come to drink. During protracted cold spells if the baths

don't actually save life I should think they relieve a great deal of misery, especially at times when there is a hard frost and no snow. I think birds can discover how to eat snow—hens, at any rate, will do so in a miserable, half-hearted fashion—but when everything is frozen hard the birds suffer a lot from thirst. Giving them water is nearly as important as giving them food. During hard frosts a bird bath should be filled with warm water a number of times a day. And it might be mentioned here that at night it can with advantage be covered by a few sacks: I have known a bird bath to be split by the water freezing solid in it.

As far as the construction goes the only difference in sundial and bird bath is in the top, which, in the latter, is some form of bowl. The bowl should match the rest of the feature. That is, if the plinth and pillar are of solid stone then the bowl should be a single piece of stone with the centre hollowed out. With hard stone there seems no alternative but to buy the bowl, though the purposeful prowler in junk yards may think differently. Soft sandstone (and soft sandstone blocks are not hard to come by) can be hollowed out after a fashion, with determination and a cold chisel and hammer. But stone-cutting is a craft and no man can do everything.

Concrete bowls will go very happily on a concrete pillar, but hardly ever on a stone one.

Bowls made out of small rectangles of thin-section stone are easy to build (they never need be large or deep), but they do need some sort of platform to mount them on, preferably a stone one. Then, in effect, all round it you erect a miniature wall two or at most three stones high. The middle space will be the water bowl.

OTHER STONE ORNAMENTS

Water in towns is taken for granted. It comes out of a tap. Not so many years ago water, in country places, did not come from a tap but was carried in cans from a well or a pump. A few fortunate cottages had a well in their own gardens. I have been told there is one in my own garden, though it was sealed over many years before we came to the house. As a rule a cottage well had a low wall built round it, and there was some sort of mechanism for drawing the water out of the well. This was the well-head, and in a few cases these well-heads were quite elaborate, being either a wooden structure like a lych gate, or of wrought iron. A few of the latter were very attractively made indeed, and are quite highly valued as garden ornaments.

As a rule, I do not think these old well-heads are very easy to come by; in some of the gardens where they still exist they have been allowed to fall into disrepair and would not be worth moving; in others they are appreciated—as ornaments or as survivals—and would not be obtainable. The question arises whether such features are worth buying, and transplanting. Some of them look quite impressive; but the few I have seen which were not made for use, but especially manufactured for sale as ornaments, have never, to me, looked right. A well-head over an old well can be decorative (though for safety's sake some sort of sealing should be fixed so that children cannot get in), but an imitation well-head put in purely as, say, a lawn decoration can easily look out of place, unsuited and unsuitable, a parakeet among sparrows.

In one garden I know intimately there is a well near one corner of the lawn. It was (long ago) there for use,

and it is surrounded by a circular brick wall about two feet high. The well is six or seven feet across. The owner has covered the water, first with planks, and then with a deep layer of concrete. He is now concreting the inside of the circular wall, and thus of his well-head will make a raised pool. It seems, in its unfinished state, a promising plan.

Here and there one comes on some well-used household or utilitarian piece of mechanism, banished to serve as a garden ornament. In a seaside garden I saw the bow half of an old rowing boat upended in a sunny corner to make a shelter for a small seat. It is not unusual to see the antique mushroom-shaped mounting stones used as ornaments along a drive, and once I came on a small millstone planked down in the middle of a lawn. It was less than a seat, yet made a convenient place to rest on a sunny day. Some of these things are so heavy you wonder how they ever got where they are, but since they had to be moved when they were in active use, obviously they can, if sufficient brute strength is available, be moved again, and a millstone should be no more difficult to move than the antique wheelless railway carriage that does duty as a summer-house in a garden I know a few miles from the nearest railway.

In the West Country a favourite garden ornament seems to be the old cider-mill (Pl. XII). When you come across one of these for the first time it looks arresting, grey, heavy, and grim-looking, more like the altar of a primitive, blood-demanding religion than a means (as it was) to make man's life jollier. In Herefordshire and Gloucestershire there are, if not a large number, at least a few, and you get used to seeing them. In some gardens they are put up and left as they were, in a sort of dignified retirement; in others the troughs that once held Cherry

Normans and Strawberry Normans and Tom Putts have been filled with soil in which geraniums and lobelia and alyssum flower colourfully. The apples from the orchard are gathered and go to the factories now to be treated hygienically (we hope) and chemically (we fear). The West Country men have nearly forgotten the taste of cider. If the old cider-mills and presses, brooding heavily in their garden retirement, need a motto to call attention to their latter days it should be: *Sic transit gloria mundi*.

17. Steps

WHEN IT comes to steps there is plenty of room for individuality; in fact, there are nearly as many designs as designers. One or two basic rules should be followed, and after that it is a glorious free-for-all.

All steps should be firm and comfortable to walk on. The height of the tread, or riser, should not be too high, nor should the front-back width of each step be too narrow. The steps should be completely safe and never made of unsound material, nor should they be unstable ones that rock about and throw you down. They should harmonize with whatever part of the garden they are made in.

The simplest steps I ever made led from a stone path

up to my greenhouse. They were steps made in a hurry because I was anxious to have a way open to the greenhouse—it was my first one and I was very excited about it—and they were successful and stood up to years of wear. They were made of logs. I merely laid the logs at even intervals down the slope, and drove pegs into the ground in front to stop their running away. Above each log I filled in firmly with cinders and beat it level (Fig. 7). I don't remember what the logs were, larch, probably, but they did not rot and I do not think I ever had many

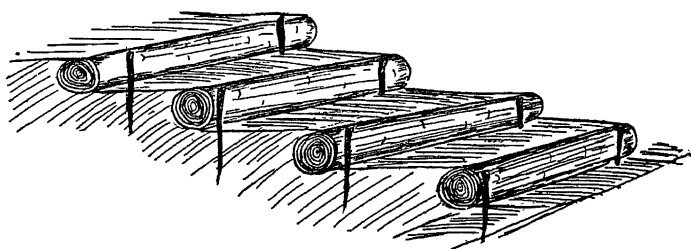


FIG. 7. *Steps made from logs*

repairs to carry out. I think those steps scored from their very simplicity. They were plain and very pleasing.

Generally, steps with wood for the risers are not recommended except temporarily in new gardens, because the wood will rot, but if strong logs, say eighteen inches or more wide, are available, then a flight such as I have described associates very well with the wilder part of the garden, with woodland, or with orchard. If possible the pegs to keep the logs in place should be of thin metal, such as old piping. Wooden pegs decay quickly.

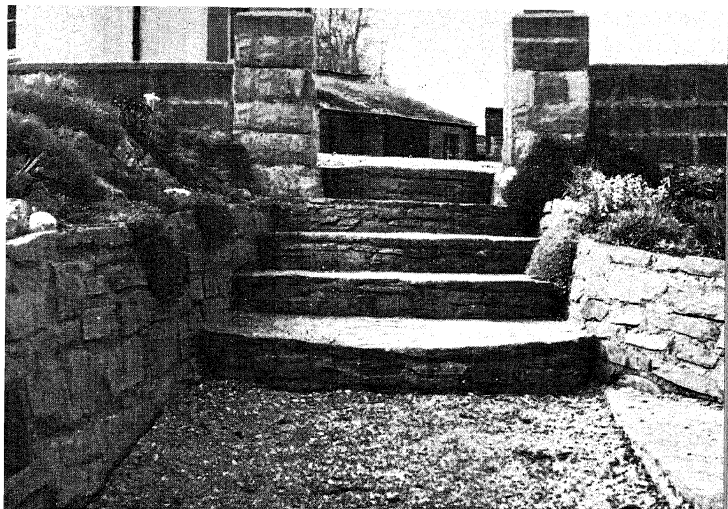
A flight of stone steps fits in with almost any design, and such a flight can be as plain or as decorative as the gardener cares to make it.

I have always found the best method of construction is to cut away the soil where the steps are to go. That is, make one width of the steps at a time; one riser and one flat tread. Begin your step-building from the bottom and work up. If you have large stones with two faces at right angles one face can be used for the risers, the other for part of the tread. You then fill in behind with a flat stone to extend the tread, using excavated soil to get the stones to the correct level. Then put in another set of risers and build another tread. And so on. . . . The steps, if the stones are heavy enough and well set, will be satisfactory as they are. Sometimes it is found better to concrete between the stones to give added firmness.

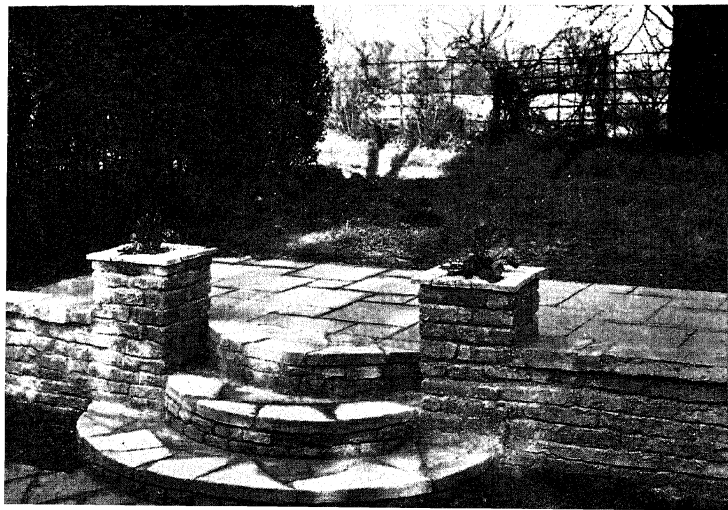
Two flights of steps made in this way are shown in Pls. XIII and XIV. They are utterly dissimilar, but have one thing in common. They both go through rock gardens. The flight in Pl. XIV, which is at Wisley, shows the use of large stones, and has an air of informality and strength. The steps, in spite of being obviously man-made, have a natural appearance.

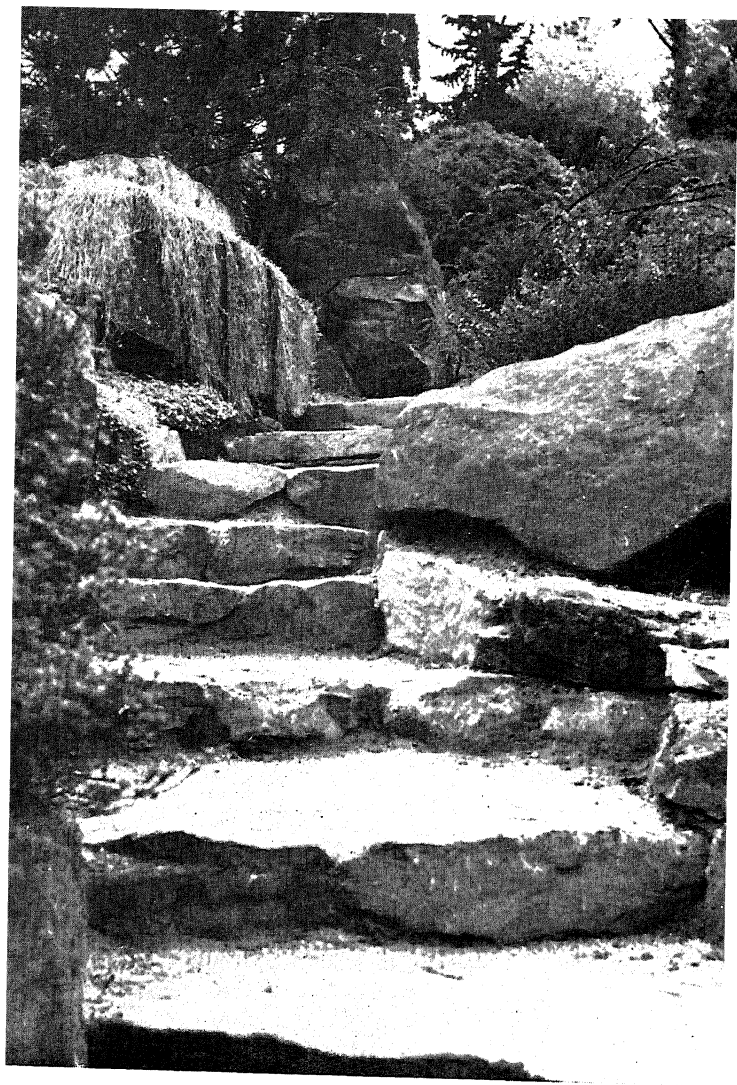
The other flight is at Courtfield, near Ross-on-Wye and was built by amateur but very skilled labour. Here the stones are very much smaller (probably because Courtfield is on a high hill-top) and have a more formal look. These stones would not have been so satisfactory uncemented.

The setting of a flight is almost as important as the flight itself, and it could be noted here the way each is finished on either side. Wisley still has the 'natural' approach, with large rocks, rock pockets with plants in, and the occasional boulder that could be water- or glacier-deposited. This merges satisfactorily into the background of trees and shrubs. At Courtfield the approach from a lower garden was steep, and cemented walls have been built on both sides. In the beds above the walls are



XIII. (*above*) Stone steps (cemented) at Courtfield.
 (*below*) Formal steps of concrete slabs.





xiv. Informal steps at Wisley.

rock plants. A good touch is the way a few trailing plants have been allowed to creep into the angle between wall and steps. The pillars at the top lead to a more formal part of the garden.

Among other materials that can be used for steps are paving stone, bricks, and large slabs of stone or concrete.

Paving-stone makes steps very attractive in appearance, but if they are where they will be used much they should be fixed together by cement, or the stones will tend to become loose; also hard frosts will displace them. How they will be finished on each side must depend on where they are, but the finish to match them best is undoubtedly a wall of the same material. This can either be level on top, or stepped, and should not be elaborate or it will detract from the appearance of the steps themselves.

Brick is most suitable for wide, shallow flights, and if there are only a couple of treads they can generally be set in sand and will then be reasonably firm. But if there is the least doubt of the steps' firmness, cement should be used. Low, wide steps of brick (perhaps from one lawn to another at a slightly different level) mellow with age (they should be made of old bricks, if possible) and they harmonize well with low shrubs on either side: white Spanish broom, for instance, or lavender, or the silvery grey of *Senecio*. Bricks make good flights of steps at a steeper angle as long as they are firmly cemented.

Home-made cement slabs make excellent steps and as a rule, if firmly fixed in the first place, need no cementing. They are best built up by laying them on treads previously cut in the soil. One layer for a tread is generally all that is needed, but at the front, as a riser, smaller stones should be inserted to hold the slabs firmly, and also to prevent their tipping forward.

Steps of solid concrete are not as decorative as those

made of slabs, but are easy to build. Generally, the steps are cut in the soil first, then wooden formwork can be erected in front of each to contain the concrete until it sets. It can either be built up step by step, or (less simple for amateurs) formwork can be made for the whole flight before the concreting starts.

18. The Use of Wood: Seats and Trellis Work

SINCE WOOD is not as permanent as stone its chief use in the garden is for furniture. The best woods to use are, naturally, those that will last longest, and three that have a high resistance to decay are teak, oak, and larch. If I had to pick a fourth I would add cedar. Teak is by far the best wood for garden furniture. It is oily, heavy, hard, strong; it seldom splits or warps. Its drawback is that being a difficult wood to work it is not convenient for the amateur carpenter for do-it-yourself jobs. Also, it is not always easy to obtain and it is expensive. Oak also is expensive; larch, in comparison, is more moderate in price.

But prices are deceptive. A good teak garden seat of plain design can be bought, at the moment of writing, for something under ten pounds. (For well over, too, if you

choose something elaborate.) Such a seat, looked after, could quite literally last a lifetime. A seat of unseasoned, cheap wood at half the price, or a little less, would warp in the sun, shrink when dry, and might decay in a few years. If you divide the time the seat lasts into its cost the teak one may be far cheaper than the cheaper seat. So if you are making your own garden seat the first point is to choose the best timber you can possibly afford. If only because it is the cheapest.

Most men have an elementary knowledge of carpentry and the use of tools, but there is no doubt that the higher mysteries of the craft of working in wood are beyond many of us. Therefore, if we are going to do things for ourselves the simpler the designs we use the better, both for the sake of the finished product and for our personal pride and satisfaction in our work.

Powered tools have made things easier for the do-it-yourself man, but there are still a few pieces of important elementary advice that can be offered.

Unless you have good tools and a suitable place to work try to buy your wood ready planed. The harder woods can be tricky for the amateur.

Use designs that need a minimum of pieces of wood. Seats with backs made of many slats, for instance, are more troublesome to make than those with a single back piece.

Do not use timber of such a thickness that nobody will ever be able to move the seat, chair, or whatever it is.

For fastening together use screws in preference to nails; and, for oak, pegs in preference to screws. You can use pegs, which ought to be slightly curved, in pre-bored holes in the same way as you would use nails. Their advantage is that they do not corrode. The curve—if you can cut them with a curve—serves to draw closer together the pieces they fasten.

The other way of fastening two pieces of wood is by means of the joint shown in Fig. 8. In this a piece of wood is jointed through another, allowing a projection. Through

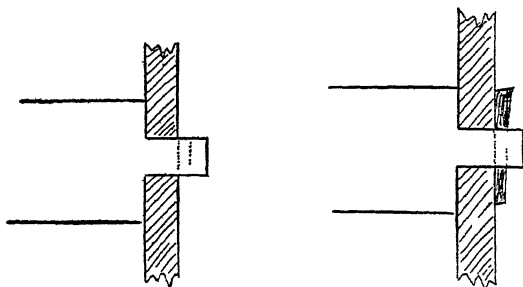


FIG. 8. *Pegged joint for garden furniture*

a hole bored in this projecting tongue a wedge-shaped peg is hammered to hold the two pieces firmly together.

There are many joints the skilled carpenter can use. For making garden furniture and ornaments learn one or two of the simplest and stick to them. The one described above is always useful in plain, heavy work; the other I have found most useful is called, I believe, the half-lap joint. It is made by cutting away half of each of the two pieces of wood to be joined and then uniting these two where the cuts have been made (Fig. 9). This joint is

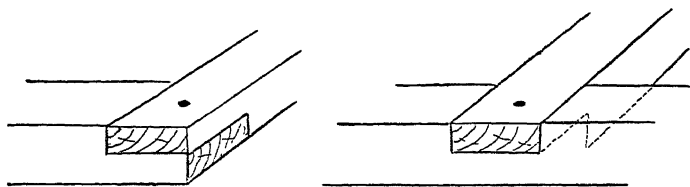


FIG. 9. *Simple joint for garden furniture and rustic work*

USE OF WOOD: SEATS AND TRELLIS WORK 107
especially useful in rougher types of work, such as rustic work.

There is a wide choice of wooden garden seats on the market, some in teak, some in oak, and most of them are good. It is quite rare to see a badly made seat, or, for that matter, an ugly one. As for comfort, that is another question. Some are too high; a few are too low; and in others the back is either too far forward or does not have the necessary tilt. It is as well, if possible, to try your chair before buying it.

The simplest seat you can make for yourself is a bench. A bench is quite a good seat. If you can place it against something, a wall, a bank, or a tree trunk to give some support to the back, then it leaves little to be desired. If you make your bench of thin deal planks it will probably look much more home-made than if you make it from fairly heavy timber. A very good seat for a bench is a single plank sawn out of a single log of wood, and if the edges are left unplanned, so that you have the original edges of the tree as the edges of your seat, then it will look so much the better. The only disadvantage in this case is that you will have sapwood (the outer rings of unhardened timber) and heartwood in the same piece. A better but more expensive plank is one that has had the sapwood trimmed off.

I cannot advise gardeners with their own timber to cut their own planks. This is such a long, tedious process that it just is not worth trying. It was once, admittedly, done by two men in a sawpit, but most of us cannot tolerate such laborious methods any more, the cutting of planks is definitely a job for the sawmill.

What is possible to the amateur, if he can find the necessary felled timber, is to cut thick sections *across* the trunk. With a friendly assistant and a cross-cut saw I have

cut many pieces like this for stools and small tables. The surfaces of such pieces, planed, sandpapered, and oiled, have a natural rugged look that is very attractive, and they improve with age.

A garden bench can be mounted on two rectangular timbers of the same width for legs. This is really a very ancient form of seat and early benches were often made in this way. Developing from it is the plainest kind of seat I know, again a very early form. It is the form in which the earliest church pews were made and examples can be studied in many old churches. In spite of its simplicity it is, if made in careful proportions, completely satisfactory to look at and to sit on.

For this seat four pieces of timber are needed: two end pieces, a seat, and a back. The seat and the back are rectangular; the end pieces may be so, or they may be shaped. (Fig. 10.)

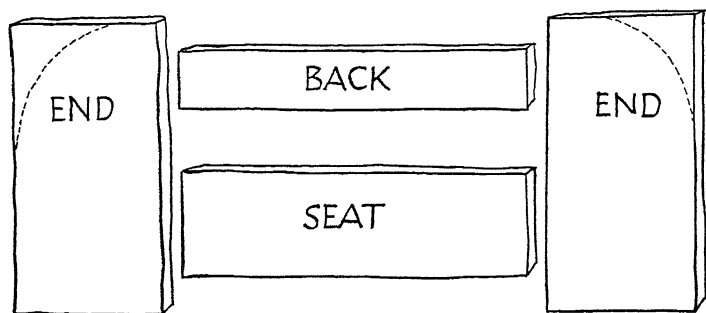


FIG. 10. *Wood required for pew-type garden seat*

Here, then, are the four basic shapes. They could, of course, be nailed or screwed together without more ado, and there is your seat. It is far better, however, to go to the trouble of fastening them together by making suitable

joints. The best is the tongue and peg joint already described on page 106. Cut rectangular holes through the ends in the positions shown, and on the back and seat cut tongues to go firmly through them. The last stage is to

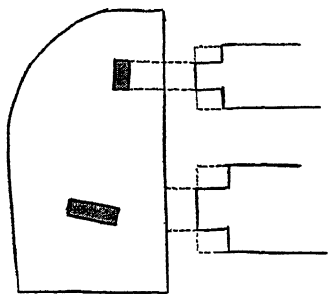


FIG. 11. *Joint for pew-type garden seat*

cut a hole through the tongue where it projects, and drive a wedge through it to keep all the pieces firmly together (Fig. 11). If the two ends have been shorn of a little of their severity you have a seat something like Fig. 12.

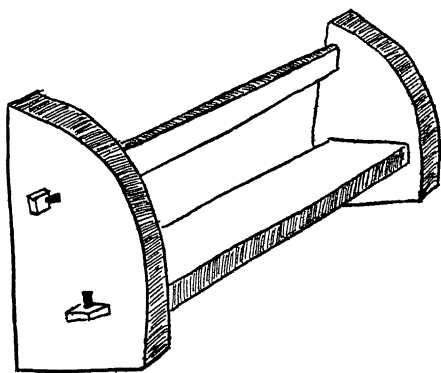


FIG. 12. *Design for simple pew-type garden seat*

In the best seats the back-rest is tilted a little to make a more comfortable support (though in pews it often is not) and the seat inclines slightly towards the back.

A seat of this sort if made of oak should be waxed, not painted. Teak and cedar contain enough natural oil to preserve them without waxing. If the seat is made of deal (which would be much easier timber, though not as lasting) it could be painted. White or green were the shades most favoured once, but nowadays bright colours have become fashionable. Theoretically, one should be cautious over the colour of garden furniture, but if bright yellow, pale purple, or dusky pink do not look out of place on the front door or the garden gate presumably they would not be so terrible in the garden itself.

Garden chairs in wood, like seats, are usually the better for being simple in design, and again the slatted type, if the slats are to be jointed and not merely nailed on, are more trouble to make than those in which one large piece makes the seat and one the back rest.

As with the garden seat a good useful design is based on the church pew, made from four pieces which are the two ends, a seat, and a back. This is virtually a shortened version of the garden seat just described, and it should be made in the same way. It is quite dear to buy, not cheap even to make at home, but it looks plain and good and, if cared for, lasts for ever.

These heavy seats are not the sort of furniture you want to carry about the garden hunting the sun or shade. Seats to carry about should be light, and deck-chairs and chairs made of wickerwork are excellent. Deck-chairs are quite simple to make, but most gardeners would not spend the time on them because they can now be bought so cheaply. Wicker furniture will have to be bought: few amateurs would tackle making it. At present there is some excellent

Italian wickerwork coming on the market. It is very cheap. There should be good English work too, from places where osiers are grown, but it usually seems to be badly out-priced by work of foreign make.

There are few gardens in which some unconventional or original seat could not be fitted in to make an attractive feature.

A log of wood split down the middle can look very pleasing in the right setting. I found one of these once in a load of firewood and wedged it firmly, flat side uppermost, against a pine tree in a spot a few yards from a pool. It rotted in time (I could have saved it by putting it under cover during the winter-time), but for years it was a pleasant seat in a quiet spot, unobtrusive and, having the broad pine for a back rest and the pool in front to stare at, always very comfortable and relaxing.

In medieval times turfed seats—Chaucer describes one in *The Flour and the Leaf*—were features in most gardens. They were popular for hundreds of years: 'In all your Gardens and Orchards, bankes and seats of Camomile, Penny-royal, Daisies and Violets are seemly and comfortable.' (William Lawson's *New Orchard and Garden*, 1618.) In a Flemish manuscript, *Roman de la Rose*, dating from the fifteenth century, there is a picture of a turfed seat with a man and a woman (perhaps the lovers of the *Roman*) sitting on it.

I don't think turf to sit on has much permanent appeal today, not in our climate, anyhow, but the same turfed surround cut out on a bank with a simple seat made of a few boards might still be very comfortable and could hardly fail to be picturesque.

The easiest seats to make of wood are what have come to be known as rustic seats. The best of these is that you don't have to be a good carpenter to make one. They are

constructed of trimmed tree branches of moderate thickness. The pieces, unless you work in larch or something similar, which is straight, come in all shapes and sizes. The only worked (flat) timber used is in the seat, and even that can be made of straight bits laid side by side.

The first pieces to choose in making a rustic seat (whether it is a chair or a wider seat the method of construction is practically the same) are two fairly straight

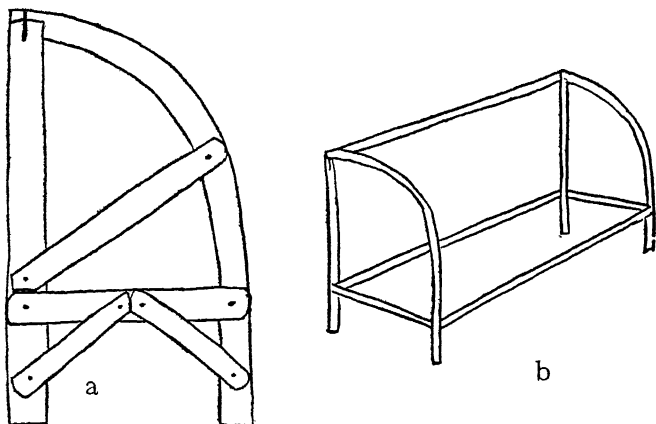


FIG. 13. *Design for rustic seat*

poles for the back legs. If you want arm rests (the seats look better if you have them) you now look for two curved pieces; what the old boat-builders, who used this shape in forming the bows, called 'knees'. Now two more straight pieces to join these together and form a platform for the seat. These six pieces make the two ends, and each end will look something like a Gothic letter A.

You can now add some more pieces to brace the ends and make them firm. Any number may be used, but do

not overdo it. Three, if roughly jointed and firmly nailed or screwed, should be enough. Now each end looks like Fig. 13A.

Three straight or near-straight lengths are needed next. One will join the two top corners together, the other two run lengthways at seat level, one at the back, one in front.

Fig. 13B is the skeleton without any rustic work added at all. It must be remembered that the so-called rustic work is not for decoration, it is very much for use, and is meant to strengthen the structure and make it firm, which, if it is properly put in, it will do. Use sufficient pieces, but never more than are needed.

The last thing to add is the seat, which may be of slats, or a single wide plank running lengthwise.

A good rustic seat well made will last for many years. I had one in a garden for over fifteen years and I left it there when I went, still in good condition, and it was never (because it was rather heavy) moved under cover in winter. It is a wise plan to choose the main skeleton from strong, sound wood and if possible treat it with some form of preservative. The bracing pieces can be thinner, and replaced if they decay.

Making rustic furniture of larch is generally easier than with gnarled oak, because all the pieces are straight, though, curiously, it often looks clumsier. If the larch poles are straight it is a good plan, especially for cross pieces and bracings, to split them. This should be done, not from the end, as you split a piece of firewood, but by means of wedges driven in along the length of each pole.

Larch is particularly good for making trellis-work on which to grow rambler roses or climbing plants.

In making a trellis do not start erecting it until a plan of what is needed has been made. This need be little more than a rough pencil sketch, but unless some sort of guide

is at hand one often finds that the method of construction, or bracing, has changed as you work, and the latter end looks oddly unlike the beginning.

As with other rustic work remember that the pattern is there rather to give strength than be ornamental. Keep the design simple and do not overdo the cross-bracings. The simplest designs are usually the most pleasing to look at.

If the woodwork should not be enough to support the plants it is easy to stretch a length of wire from post to post to tie them on.

Trellis-work can, of course, be bought, or it can be built up in the workshop in sections to be erected later. But it is generally most satisfactory to build it where it is wanted.

Choose first the uprights, as straight and as strong as may be. If possible, treat the wood with creosote against decay. Set each upright firmly in a deep hole. A few heavy stones in each hole will help to ensure firmness, or, even better, first a few stones and then a bucketful or so of concrete. Make sure that the uprights are vertical, also that their tops are at the same height.

Once the uprights are in place (you will have to leave them a few days if you have set them in concrete) the top rail can be nailed or screwed on. If nails are used they should be big, strong ones, specially bought for this work, not odds and ends out of the family nail box.

Either make simple joints to fit the rail ends on each post, or trim them flat on the underside so that they rest flat. The rails at each end look better if they are allowed to protrude a few inches.

A bottom horizontal rail should run from post to post a short distance above the soil. After this has been fitted, the cross-bracings can be nailed on. Use joints where possible

for main lengths, and flattened ends for all others, to give better grip. That is, do not fasten round surfaces to round surfaces. Nothing is more tiresome than having plant-covered trellises fall down, or having to remake them every few years, so it really is worth making them as well as possible in the first place.

The trellis-work principle can be used in a number of other garden features. Rough trellis gates are quite pleasing as divisions between various parts of the garden, and arches can be erected for climbing plants.

An arch is little more than two uprights on each side of a path (if it is to span a path) joined with cross-bracings, and having a further section or sections of trellis-work, either flat or arched, to join them.

In the case of a flat-fronted ugly house an arch of this type erected round and over a door makes an excellent porch, and when well clothed with ramblers, clematis, forsythia, or whatever it may be, completely alters the appearance of the house. I can vouch for this, having once had such a house which I transformed with an arch.

Pergolas can be made of strong poles and trellis-work, but these I do not really think I can recommend. Only the heaviest section timber will do for a pergola, and even then I prefer to see it erected on concrete pillars as described in Chapter 12 (see Pl. IV). I am sure well-made timber pergolas would last a long time, but they are heavy structures, and I have always had a slight prejudice against them since reading in the delightful (but now defunct) *My Garden* the lament of one of our foremost rose-growers whose pergola had just blown down in a summer storm. Laden with rain-weighted foliage that is just the time they would collapse.

I had once the good luck to have a little stream flowing through a part of my grounds. When we had enlarged it

into a pool and made a garden round it I made a rustic bridge across the stream, which certainly added to the attractiveness of the spot.

It was a plain structure. Two larch poles were laid, about a yard apart, across the stream. Four stout poles, one to each end, were driven into the ground so that they stood between two and three feet above the ground. Two more long poles joined these to form hand-rails. Each side was then fitted with pieces to cross-brace it. The tread of the bridge was made of lengths of straight wood running from side to side and nailed in place.

Much of the Bridge's charm (it became a family proper noun almost at once) lay in its simplicity. It was rather pleasant to lean on the rail and stare into the pool, and many a happy hour I must have wasted there.

19. Arbours and Summer-houses

THE GARDENS of our ancestors always had their herbers or arbours: the 'arbours o'ergrown with woodbines' mentioned by John Fletcher in *The Faithful Shepherdess*, or Shakespeare's 'pleached bower, where honeysuckles, ripen'd by the sun, forbid the sun to enter.' There were instructions in gardening books for making them. 'Make the herbers either straight or running up,' wrote Thomas

Hill in his *Art of Gardening* (1568), 'or else vaulted or close over the head, like to the vine herbers now adaies made. And if they be made with juniper wood, you neede to repaire nothing for ten years after; but if they be made with willow poles, then you must new repaire them every 3 yeare after.'

The arbour in the old gardens was usually erected on the Mount, and the mount was an early garden feature, which varied from a large heap of earth to a miniature hill, and which may have evolved from look-outs in earlier fortified grounds. The Mount was particularly popular in Tudor and Stuart gardens, and some of the arbours put up on them were both large and elaborate.

The arbour has been ousted of late by the summer-house, or the canvas garden shelter, which, however convenient, is a much inferior contraption, and unattractive into the bargain. It is rather a pity, for the arbour, with its trailing plants, was a very attractive feature.

A rustic arbour is very easy to erect, and if completely covered by climbing plants, looks very well and makes pleasant quarters for a seat or a few chairs. Four strong poles are required for the corner supports. These are joined by further long lengths from side to side, and from front to back. One side, naturally, the front, is left open. This should face south or south-west. The other three sides are filled in with cross bracings which will hold the structure together and give support for the climbers. The roof also should be filled with framework.

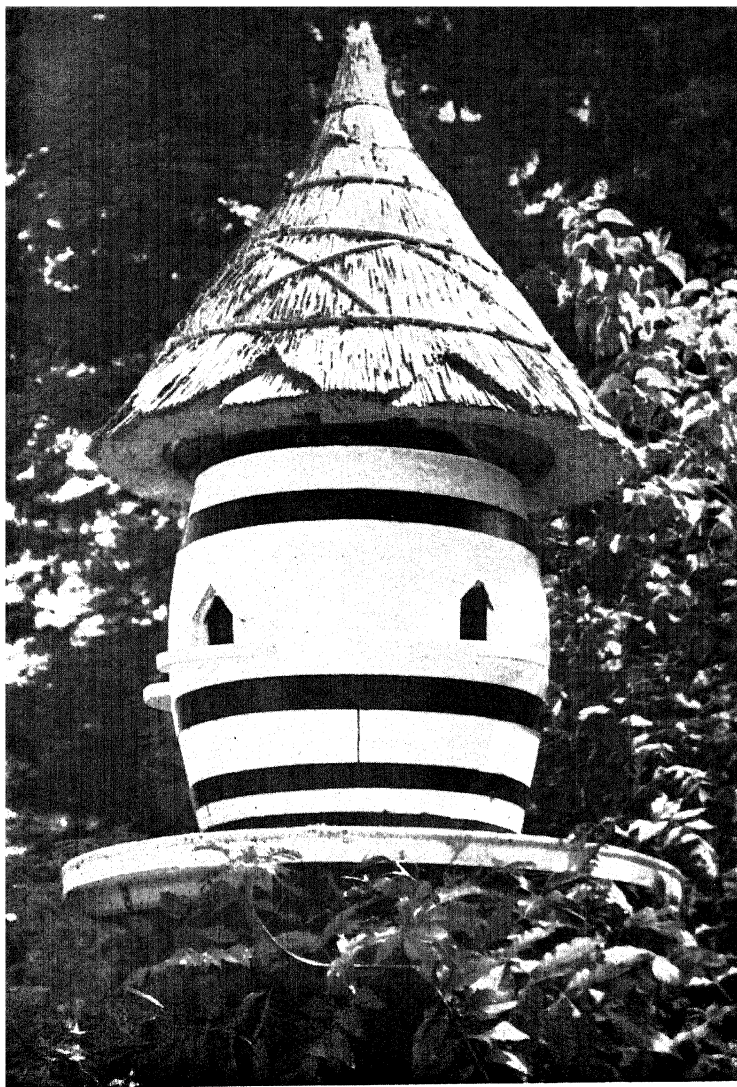
A simple arbour like this, carefully situated out of strong winds, is a delightful spot on fine days. On wet ones it is, I am afraid, no place to linger, for the rain drips in dismally. Very little extra work and expense are needed to make it waterproof by lining the inside with tongued and grooved matchboarding. Sometimes this can be

screwed direct on to the arbour (if you try to hammer upwards something generally comes apart), or if the wood-work is too uneven a few battens can be fixed inside to hold it. As a rule, if plants are grown thickly, a wooden roof is all that will be necessary to keep rain out. I favour trying a roof only because half the charm of the arbour is being able to look at the plants that grow on its walls. A quite satisfactory roof lining, though it may not be as permanent, can be made by tacking up some polythene sheeting as a ceiling.

There are only two really important points to bear in mind when making an arbour; both have been briefly mentioned, but are worth stressing. They are, to choose the aspect to catch the sun in the position you most like it (or maybe avoid it) and to plant really generously of the climbers you like best, and feed and cultivate them well so that the dead bones of the structure are hidden with stems and leaves and flowers, and perfumed with the scents you like best.

There is a practice of using lengths of split larch poles in various designs to cover the outsides of buildings made of plain timber. As a rule this sort of rustic work has no useful function but is merely decorative. While the appearance of such houses may be quite pleasant it should be remembered that the rustic covering will provide dry, warm, winter quarters for a host of garden pests; earwigs, woodlice, queen wasps and so on, and some steps should be taken in good time each year to deal with them before they emigrate to their favourite plants.

I saw in one garden a sort of arbour-cum-summerhouse which was not made of rustic work, but was so simple that other gardeners might care to copy it, or improve on it. It was of the arbour type; that is, having three walls and a roof. The four corner posts were of stout, squared timber,



xv. Dovecot made from a barrel. Fox and Hounds Inn,
Crawley, Hampshire.



xvi. Home-made gates.

and the side walls, back wall, and roof were covered with the thin trellis-work made of lath-type wood that most garden sundriesmen sell for training plants on. The whole structure had been painted, and plants were growing over it, and it looked very pretty. It could hardly have taken more than a couple of hours to put up.

It is worth mentioning here that this thin wood trellis-work is easily made at home from the bundles of laths that can be bought from the builders. With a little forethought it can be made up, too, into a variety of attractive designs.

The arbour probably went out of fashion when the 'natural' style of gardening came in about the eighteenth century, and many very pleasant ones must have been destroyed to make way for the views and vistas that such gardeners as Capability Brown liked so much. When gardening layout became more artificial again in Victorian days the arbour returned as the summer-house. Some very odd summer-houses there were, too, if one can judge by old photographs, in some very odd styles of architecture. The more fanciful, the more our grandfathers liked them.

The summer-house of today is little more than an elaboration of the arbour. The simplest ones are not difficult for the amateur handyman to make for himself, as they consist generally only of a back, two ends, and the roof, which can easily be in one piece. So all that has to be designed is an easy four-sectioned building. Unless you really enjoy making these things yourself I do not think there can be any great saving in money in making your own. Timber is not cheap when bought in small quantities, and the firms who make portable buildings are able to offer them at very competitive prices.

In buying a summer-house it is well worth the extra expense to have one with a floor which is mounted on a

turntable. This enables the house to be turned in any direction, and it can be adjusted, not only to catch the sun, but, even more important, to avoid any chilly winds.

20. Bird-tables and Nesting-boxes

ABOUT BIRD-TABLES I have changed my mind, and I have changed it more than once. My earliest attempts (we never seem to have been without a few about the place) were rather fanciful; platforms with a pillar at each corner and a little roof covered with shingles, or my amateurish attempts at thatch. These, mounted on poles or thick battens which had been fixed firmly in the ground, were probably admired more by ourselves than by the birds. They did, however, feed on them.

I then had the feeling that birds, liking to see around themselves as much as possible, objected to the roofs and other fancy work, so our next bird-tables were plain slabs of wood nailed on to the upright posts. That gave them all the vision they could wish for. I also felt that, like some humans, they preferred to feed in privacy. But it is a mistake to endow animals with our own emotions. The truth is, birds don't seem to mind where they feed as long as they do feed, and some, perhaps, *prefer* to be within reach of humans. In any case, the birds of our own garden

never did have any difficulty in stuffing themselves to the tips of their little beaks in privacy if they wanted to, for the poultry run is some distance from the house and there they could always get a meal.

In short, our present bird-table is so near the house it is nearly inside it. It is plain and quite unornamental: an old occasional table top with a narrow rim round three sides of it to prevent the food falling off. It is mounted on a pole outside the dining-room window. The rimless side faces the room and nearly touches the window-sill. The table is never empty of food and, except for a short period of a few weeks in autumn when I imagine they emigrate to the stubble of the local cornfields, it is never empty of birds. It is generous in size, yet even so sometimes there is hardly standing room. Most of our visitors are, of course, sparrows, but almost every other species in the garden, from wrens to an occasional impudent crow at dawn or dusk, turns up at one time or another. Naturally, we enjoy the rarer visitors, the nuthatch, the less common tits and finches, the cheeky young woodpecker who disintegrates coconut as if he were chopping it up with a cold chisel. But all are welcome. Almost the first act of the day is to put food on the table. As soon as the window is shut the arrivals begin, as if they had been queueing just out of sight, and it goes on all day. Occasionally, even a mouse makes his way up the ivy and drops off for a meal.

Bird-tables are definitely more fun home-made. Whether you decide to put up a simple platform type (you are bound to have the platform mounted on the pole for a start anyhow) or go in for the roofed variety, or make a little house, does not matter. Any kind is simple to make. One of the miniature house type can be made by using a suitable wooden box as framework. Triangular pieces of wood nailed on the ends make a foundation for a roof.

One I saw made in this way had, as well as a good surround of platform where food could be spread, an ever open door. The pious idea was that in bad weather the birds could take shelter. I doubt if they ever did. It was that fallacy again of investing them with human desires.

There are a few birds which have a natural taste for the insides of buildings, some owls and always swallows in nesting time—we always have our garage doors open all summer because the swallows nest in it—but apart from the few exceptions the space confined within four walls, so far as I have been able to observe, seems to inspire in them only discomfort.

So make your welcoming house on the bird-table; the charitable thought will surely get a good mark chalked up against you. But do not be disappointed if the guests do not come.

Bird-tables make one think of nesting-boxes. We had one of these hanging for years in a tree opposite the kitchen window. I have, very occasionally, seen inquisitive tits pop in through the hole, but they would come out so quickly you felt certain they had not had time to look round. A few times we have put up nesting-boxes. There has never been a nest in any one of them, though the birds will build in the ivy so close to the windows of the house that we could lean out and touch them if we wanted to; also the blackbirds build on the timbers *inside* our porch.

But I have read of gardeners whose nesting-boxes have been more in demand, so it is always worth giving them a try. The simplest kind is a small box with a hole in one side. One of more natural appearance can be made of a hollowed log, sealed at the ends and with an entry hole in the trunk. The box should be fixed firmly to a tree, or in some place where it cannot be moved, and it should be waterproof. Those requirements are fairly obvious to

any intelligent person, and if boring out a hole in a log sounds a difficult task it can be done by burning a hole through first with a red-hot poker and then enlarging that hole with a gouge.

But the secret of the successful box is not quite so simple. It seems any old box or log will not do. At the beginning of this century a bird-lover by the name of Baron von Berlepach, who had an estate at Seebach, made a scientific study of nesting-boxes. His method, or one of his methods, was to cut sections from old trees in which birds had nested and he found that nesting sites were practically the same size and shape for particular birds; tits, for example, liking $3\frac{1}{2}$ inches diameter and 3 inches in depth. The conclusions of the Baron were apparently correct, and the boxes he put out at Seebach were consistently used by the birds they were meant for.

His findings are a bit out of fashion nowadays. The trouble is you can use boxes of the same proportions as he used and still have no nests in them. A point to remember in making a box is to be sure the hole is in such a position that baby birds can get out.

Looking through a bird book to see what the experts had to say I found the following: 'As soon as the birds have laid their eggs it does not in the least matter lifting the lid to inspect their progress. Blue tits, great tits, coal tits and the rest have not any objection to observation of this kind.' In my experience *all* birds have *great* objection to observation of this kind, and the best thing and the kindest thing you can do when they are rearing their young is to leave them alone.

21. Tubs and Window-boxes

A BARREL sawn in two will give two excellent tubs. These are, from a growing point of view, nothing more nor less than a simple form of the vases mentioned earlier, but they are probably less obtrusive than vases, less conspicuous in their own right.

The best way to use a tub for plants is to regard it as an oversize flowerpot that can be used decoratively out of doors. First bore a number of holes in the base for drainage. Next take some steps to make it resistant to rotting. This could be done with some form of paint, but as there is always a danger that paint will damage the roots of plants (especially if it has a creosote base) a good way is to fill it with shavings, or paper, and set them on fire. A large fire is not needed; just enough to char the wood thoroughly.

The outside of the tub can be painted white or green (or any other colour) and the rings, or hoops, black. A good idea is to screw on the outside, just below the rim, a couple of handles so that the tub can be moved if necessary (and if necessary by two people). It is best to put the tub on the spot chosen for it before filling it with soil. Two tubs, one each side of a door, or each side of the top of a flight of steps, look quite well, but every garden will have its own most suitable spots.

Put a few inches of broken crocks or crushed brick in the bottom of each tub. Cover this with a few turves, placed grass-side down, and over the turves place the

compost. Any good compost will do. A suitable one for most subjects is three parts fibrous loam, one part peat, and one part rotted manure, with plenty of sharp sand for drainage. Fill the tubs over the brim and allow to settle rather than ram the soil down. When the soil has settled the plants may be put in.

A tub is a very suitable home for a small specimen shrub. A bay, a hydrangea, or a shrubby verbenas is often used, but there is really little limit to what can be grown and, remembering that the tub can be carried in during the winter, one is not limited to hardy plants. It is a pity to fill the tubs with plants that can be, and are, easily grown elsewhere, petunias, geraniums, fuschias and the like. In towns the tubs might be used for flowering shrubs for which there is no other room, and in country gardens they might make good homes for semi-tender plants or those that grow better for some shelter in the colder weather. The orangeries of three centuries ago consisted of orange trees grown in tubs.

The use of a tub as a small pool has already been dealt with. Two other ways a barrel might be used come readily to mind. One is to make a dovecot of it in the way illustrated in Pl. XV. The platform of this particular one is mounted on a pole (the pole can go through and be secured to the top of the barrel) which here is hidden by climbing plants. Such a dovecot would probably look satisfactory without any extra roof, though the expert use of thatch (this one is in the garden of the Fox and Hounds in the Hampshire village of Crawley) certainly gives an added finish.

The other use of a barrel is to make a seat of it. This entails cutting it about halfway through—near a hoop, if possible, and removing the top. After cutting or filing through the upper hoops a section of the barrel will come

away, leaving the basic shape of the seat. The seat itself, which need not be circular, has to be nailed or screwed firmly in place. The rest is a matter of staining or painting (Fig. 14).

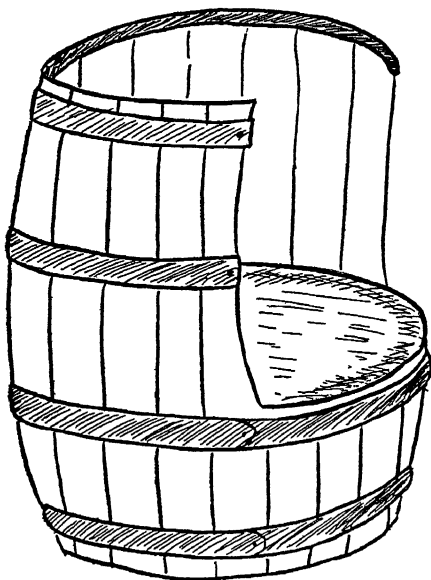


FIG. 14. *Seat made from barrel*

Having had a tub seat in a garden for years I can vouch for its usefulness. With the judicious aid of a cushion or two it is very comfortable, but it does need to be made from a barrel of generous dimensions. It must be repeated that the seat itself should be fastened in strongly. Any weakness there will result sooner or later in someone being wedged in a position neither comfortable nor dignified.

WINDOW-BOXES

The owners of small gardens, always short of room for all the flowers they want to grow, may care to consider whether the use of window-boxes would help to solve some of their problems. Not every plant is suited in the window-box, but most of the bedding plants and half hardy annuals are, and also many annuals. Spring bulbs do particularly well in them, and in autumn some of the smaller-growing chrysanthemums, especially the pompons. Of recent years the use of window-boxes in cities—and I mean now to decorate offices and shops—has spread to such an extent that the growing of plants for them, planting them, and looking after them, has become an important part of the florist industry.

Making a window-box presents no difficulty. It is, after all, simply another box, having two ends, two sides and a base piece. It should be slightly shorter than the window-sill on which it is to stand, though in front-to-back width it does no harm if it is an inch or two more. The depth can vary according to the size of window-sill, a large sill being able to take the slightly deeper box. But eight or nine inches can be taken as a generally useful measurement. The box can be perfectly rectangular, or the ends may be slightly wedge-shape, the wider part to the top, so that the front of the box leans forward a little. It goes without saying that every box must be strongly made and firmly nailed or screwed together.

When a box is made, holes for drainage must be bored in the base. These can well be stepped (alternate) about six inches apart. The next thing is to paint the box in whatever colour is chosen, but the inside may, instead, be well charred by burning shavings or paper in it. Wedge-

shaped pieces of wood are required to keep each box level on the window-sills, unless (which is rarely the case), the latter do not slope towards the front.

Window-boxes filled with soil weigh a good deal so many gardeners may find it better to put them in place and then fill them. Drainage must be put in first, then the soil. The compost used for tubs is suitable: three parts loam, one part peat, one part rotted manure, and some sharp sand. Fill the boxes well and if possible allow the soil a little time to consolidate before planting.

There are few rules as to maintenance and they are simple. The chief attention needed is watering, and in showery weather this may not often be necessary. It is fatal to underwater, but the kind of watering that results in deluges of water running down walls, or, if a box happens to be above ground-floor level, on to the heads of people below, or in at open windows, is about as bad. There is a happy medium that can be learned, and the gardener who is relying much on window-boxes should take pains either to learn it or to devise some means of catching the surplus water that runs out of the box. Plants in window-boxes should have occasional doses of weak liquid manure. If this is made from one of the concentrated bottled kinds sold by the nurseryman it will not be offensive in smell.

Because, nearly always, the boxes are in sheltered positions, plants will often go on flowering in them after they have given up the struggle in the open garden. There is then a temptation to leave them too long. If the changes are being rung it is a temptation that should be resisted. The loveliest garden looks none the worse now and then with cleared beds and freshly turned soil. So with your miniature garden in the window-box. When the summer flowers are over pull out the plants and put them on the

compost heap; loosen the soil with a hand-fork, add a little manure or a handful of general fertilizer or bone meal, and plant the bulbs. Nowhere will bulbs flower better than they do in the window-box. All of the popular spring bulbs are happy in such a setting, and such a position, which gives them just that little extra warmth and shelter denied their relatives in the open beds, without any suggestion of forcing.

22. The Sunk Garden

THE GREAT NEED in gardens on level ground, particularly in small gardens, is to break the monotony by introducing features that will vary the level. One of the best ways of doing this is by making a sunk garden. In a very small garden this would alter the whole of it to two levels; in a larger garden the sunk garden could either be a feature in some position such as the centre of a lawn, or be a focal point, a sort of interesting spot to which other features, the lawn or the wide flagged path or the steps through the rock garden, could lead.

A sunk garden can be any shape; as a rule it will be rectangular, but whatever shape it is it must be symmetrical and fit symmetrically into its immediate surroundings. That is to say, an oblong one would fit in the

middle of an oblong lawn, whereas a triangular one at the edge of a circular lawn might look decidedly odd.

In theory, all that is needed after the shape and site are decided is some hard work with a spade. In practice, there are two important points to watch: soil and drainage.

The sunk garden is made by excavating soil from its site to whatever depth is decided upon. This need not be, in fact it never should be, a great depth. A definite eye-catching difference of level is what must be aimed at, not a shadowy pit. It is difficult to lay down rules, because so much depends on proportions; you can go deeper in a big garden than in a small one, for instance; generally a foot to eighteen inches will suffice. But at eighteen inches you will be nicely below the fertile sub-soil, you might be by then on solid clay, on pure sand, or on some nasty chalky mixture. And none of these is a good medium for growing anything at all. So when the digging work starts, save your turf to relay if your sunk garden is to be grassed over, and save your fertile top-soil to go under it or to be used wherever in it you will grow plants. Naturally, when the excavation is completed the surface exposed should be well broken up, and if possible it should have a good dressing of compost dug into it.

The question of drainage is more difficult, yet it must be thought out if the sunk garden is not to be a squelchy marsh through most of the winter and perhaps, in a wet one, the summer as well. If the sub-soil is naturally well drained there is no need to do anything. If it is not well drained then it will be a good plan to lay a couple of land drains, or dig ditches, and fill them with stones, clinkers, and broken bricks. If there is a difference of level in the whole garden lead these off through a single trench to some spot where they can empty themselves; to the pool, or the bog garden, for example.

If the garden is all on the flat (and that is the one in which a sunk garden is most attractive) then whatever drains you put in must lead to a sump. You can make a sump by excavating a large hole in some out-of-the-way corner and filling it nearly to the top with the above-said stones, clinkers, and brick. Cover them again, of course, with soil and turf, or some suitable plants.

There are very many ways in which a sunk garden can be furnished, so many variations that it would be impossible to list them all. Rather than try to do so I will describe one which struck me as attractive. It was not much more than a foot in depth. The sides (the difference in level between it and the garden proper) were walled with thin walling stone. A few trailing plants, but not too many, not enough to hide it, were growing in the wall. The top of the wall was finished with flat stones, outside which was a narrow bed planted mainly with the stronger growing rock plants. Outside this was a stone flagged path; beyond that various flower beds. There were two little flights of shallow steps, one at each end, leading down to the sunk garden. It was grassed over but in the middle there was a small pavement with a bird-bath on it. There was also a small stone seat near one of the walls. As a once-famous advertisement used to say: 'Not too little; not too much.'

23. Hedges and Topiary

IN JOHN EVELYN'S *Silva, A Discourse on Forest Trees*, he described his famous holly hedge. 'Is there under heaven a more glorious and refreshing object of the kind, than an impregnable hedge of about four hundred feet in length, nine feet high, and five in diameter, which I can shew in my now ruined gardens at Say's Court (thanks to the Czar of Muscovy) at any time of the year, glittering with its armed and varnished leaves! The taller standards at orderly distances, blushing with their natural coral. It mocks the rudest assaults of the weather, beasts or hedge-breakers.'

The Czar of Muscovy mentioned was Peter the Great, who stayed at Evelyn's house in order to be near Deptford when he was studying the shipyard there. The damage referred to, which Sir Christopher Wren and Mr London his gardener estimated at £150 (a large sum in those days) was caused mainly by Peter's taste for being wheeled about the garden at speed in a wheelbarrow, over and through anything in his path. There is a story that he got his barrow-pusher to charge with him through the famous hedge, but if it was as good a hedge as its owner says it was he would soon have grown tired of that.

Hedges are as English as the landscape itself and there is no doubt that they can make very imposing features in gardens, either as boundaries, or as divisions within the garden. In the old days there were plenty of first-rate

examples of yew or holly in the gardens of great houses, but in recent years a lot, even of the best of them, have been cut down. The great drawback is that they have to be clipped, some once a year, some quite often. In a short hedge that may be a pleasant hour's work, but anyone emulating Evelyn's four hundred feet of holly, nine feet high, and five feet thick would have quite a job on his hands, and the cost of having it done (and well done) would surely be out of reach of most people except the winners of football pools.

The shortage and expense of garden help, though, is beginning to result in a number of mechanical aids that make it possible for the owner-gardener to do easily what, to his ancestor's gardeners, was hard labour. One of these aids is a hedge-trimmer. There is an electric trimmer, and recently one has been brought out that can be driven, through a flexible drive, by the motor of a mowing machine. Perhaps as these hedge-timmers come into more general use the ornamental hedge, once tended to perfection by an army of poorly-paid gardeners, will become fashionable again.

The trees that make the best and most lasting hedges are those that grow most slowly, and of these yew and holly are hard to beat. Yew is probably the slower of the two, and some of the few remaining good yew hedges found in large gardens must be hundreds of years old.

Quicker effects of the same type are obtained by using one of the cypresses, *Cupressus macrocarpa*, or *C. Lawsoniana* (*Chamaecyparis Lawsoniana*), but the former has gone out of favour because of its habit of dying off in patches. *Thuja plicata* (or *Lobbii*) is often used, but is not thought as good as *C. Lawsoniana*. Other trees that make evergreen hedges that can be clipped closely are Box and *Lonicera nitida*. The latter, after having a run of great popularity

some years ago, has fallen from favour, but it is still a useful shrub. Beech makes an excellent hedge and so does oak. They are beautiful in winter because the leaves on the young shoots, after turning colour, do not fall until quite late in spring.

There is room for a good deal of experiment in growing informal hedges, that is, hedges which do not need regular clipping and only have to be trimmed here and there to keep them within bounds. Practically any flowering or berrying shrub, or those with brilliantly coloured leaves, are likely candidates for informal hedges. A lot of the rose species are suitable, especially those that bear good crops of hips; others are the various *Berberis* species and the old-fashioned *Cydonia Japonica*, now listed under the less pleasant label of *Chaenomeles*. I have seen, dividing the traffic lanes on two-way roads, some good hedges of Forsythia. You cannot have everything at once, though: they were a solid golden mass in spring, but a modest green the rest of the year. A mixed hedge is worth trying: a few *Lonicera nitida* to be green always, a few *Prunus pissardii* to be starred with flowers in winter and red-leaved from spring to autumn, some *Berberis* for berries, and a *Deutzia* or two to give flowers in early summer.

What many gardeners forget is that hedges are made of growing plants. If they are to give of their best they need feeding. If manure is plentiful it can be used (generally it is too valuable), but a sprinkling of bone meal in autumn and another of general fertilizer in spring will work wonders.

Privet has not been mentioned. It is under a cloud these days, and hedge-growers are often warned against it. Nevertheless it has some very solid virtues. The general complaint against it is that it robs the ground of plant foods, but that is because it is seldom fed for its own sake,

and the remedy—a little fertilizer occasionally—is easy and cheap.

Low hedges as garden divisions are well worth considering, and by far the most beautiful plant for the purpose is Lavender. A well-grown lavender hedge is a thing of beauty in its own right and the lovelier because of the cloud of perfume it exists in. It is one of the easiest of low hedges to grow. Choose your hedge site, dig it, add some manure or compost, and then along its length, either in autumn or spring, but preferably in autumn, insert two stepped rows of cuttings nine inches apart.

TOPIARY

From hedges and the clippings involved, it seem natural to think of the despised skill of topiary. It is very ancient, this craft of making a bush or tree look like something it is not, and the early Romans, according to Pliny, seem to have been experts at it. It flourished for hundreds of years, and though Bacon dismissed it as childish, it was practised probably more widely in Tudor and Stuart gardens than it had ever been in England before, or has been since. The best word for it was said by William Lawson in his *New Orchard and Garden*, when he wrote of how hunting scenes could be depicted: 'This kind of hunting shall not waste your corn, nor much your coin.'

By the early eighteenth century topiary was on its way out. Addison attacked it in *The Spectator*: 'I would rather look upon a tree in all its Luxuriance and Diffusion of Boughs and Branches, than when it is thus cut and trimmed into a mathematical figure.' In *The Guardian* Pope wrote his amusing parody of a catalogue of topiary work:

'Adam and Eve in yew, Adam a little shattered by the fall of the tree of knowledge in the great storm;

'Eve and the Serpent, very flourishing.

'St. George in box, his arm scarce long enough but will be in condition to stick the dragon by next April; a dragon of the same, with a tail of ground-ivy for the present. (N.B. These two not to be sold separately.)

'Divers eminent modern poets in bays, somewhat blighted, to be disposed of a pennyworth.

'A quickset hog, shot up into a porcupine by its being forgot a week in rainy weather.'

Topiary does not, from that time, ever seem to have got on its feet again. Yet it has never quite died out and it is still practised. I believe the best example in English gardens is at Levens in Westmorland, but the picture the thought of it brings to my mind is that of a Herefordshire cottager, pipe in mouth, clipping away slowly and stolidly at an ill-defined bird during a sunny summer afternoon. It is a sort of sentimental picture; false, no doubt; he was probably a bad-tempered man who beat his wife, and he's almost certain to have poached pheasants, but somehow the work looked pleasant and relaxing, and as he snipped a bit here and snipped a bit there he appeared unconscious of the stress and tensions that seem to be tacked on to all the blessings the twentieth century has brought to us.

Though clipped trees can still be seen in a few great gardens it is nowadays mainly a cottage craft, and somehow an artless one. If it does not look natural, neither do a lot of other things we tolerate. There is no reason why any gardener should not have his own 'birds, beasts, or men, armed or otherwise', if he wants them. *If he wants them*; that is the only test.

24. The Way In

I SEEM TO to have reached the borders of the garden. Old houses, even cottages, were often confined in walls. They cost little then; the house-builder could afford them. And very nice they were, giving shelter from winds, reflecting the heat of the sun, providing a warm background against which to grow pears and peaches and a host of other good things.

If you buy an old house (with all its drawbacks) you may still enjoy the blessings of a walled garden. But the most the new houses will get so far as I have observed is cleft chestnut palings. You can replace this—at your own expense—with a fence of woven weatherboarding, but it is a poor substitute for the old garden wall.

The obvious answer seems to be a hedge. These have already been dealt with and some suggestions made. For those who still ponder unhappily on the clipping that will be necessary here is one more idea that may appeal, especially to gardeners who would like an orchard, but have no room for one. Assuming that there is a wooden fence of some sort already in place, plant cordon or espalier trained fruit in front of it. A row of single-stemmed cordons would be slightly cheaper per tree, but horizontal trained espaliers (those with stems branching horizontally from a main trunk) would occupy more room and so be cheaper in the long run. They could be trained on wires fastened along the fence. These forms of fruit trees grow

quickly, can be pruned to occupy whatever space you care to give them, and they come into bearing early, and crop heavily. Fruit trees grown in this way would be attractive from early spring (when the pears start to bloom) until leaf-fall in autumn, and though the fence would be visible through the winter that is a season when one is not so much in the garden, and in any case healthy young trees against it would certainly distract the eye from much of its harshness.

Apples and pears are always available in this horizontal trained form. I am not so sure of cherries and plums, but they can be bought in a fan-trained shape which is quite as good. Also available in fan shape are apricots, nectarines, and peaches, and if there is plenty of room to spare they, too, should be planted. They are not nearly as tender as many people imagine, and with some shelter from a wooden fence should fruit quite reliably. These three fruits are usually self-fertile, which means that single trees can be planted. The others must be planted in twos and threes so that they can cross-pollinate each other. Morello cherries for cooking and bottling could be grown against any fence facing north.

An addition to this wall orchard all round the inside of the garden fence would be, if there were room, a row of soft fruit, currants and gooseberries, in front of the larger trees.

DOORS AND GATES

We finish where we should have come in, at the garden gate. Whether it is wide, with a drive to the house, or narrow, with only a path to a front door, does not matter. This, though the book ends with it, is where the garden starts. And often, in the way it has come last in the book, it gets least attention,

Englishmen dearly love a boundary. The whole country is so criss-crossed with hedges that from a few miles up it must look like a gigantic piece of crotchet-work. I have seen it worked out (though I long ago forgot the figures) what area of land is occupied with hedges, and it was phenomenal. But I doubt if we are likely to change.

The same with our gardens. Even the newest garden starts with a fence. Then there are hedges, walls of brick, stone walls, dry walls, iron fences. Of course they are necessary, they provide shelter; they keep animals out, our pets and our children in. Yet, even if they were not necessary I think we should still use them. It is some psychological peculiarity in our make-up. Perhaps the centuries of having an English Channel barrier ingrained in us the feeling that a barrier there must always be. A hedge to stop the neighbours looking at us . . . a wall that passers-by cannot look over . . . a screen. . . .

And that brings us to the way in, the garden gate. Drawbridge and portcullis we no longer need, but we must still have the door or the gate. In the country this is something of a necessity, especially if you live, as I do, in an area where most animals are sheep. Our gates we must have, and we must keep them shut, or all our best plants will be transformed into mutton.

But when you come to think of it only a minority of us live in the country. What of the town-dweller? That is the strange thing. He doesn't *need* a gate. But he must have one. If he lives in a terrace of houses he will have a gate. If there is a row of nine hundred and ninety-nine houses there will be nine hundred and ninety-nine gates. And here is another queer phenomenon. They will all be shut at night. They hold nothing in, nor keep anything out, but when night falls the lord of the castle will shut the gate, or give orders to shut the gate. It is one of his

last queries before rest: 'Is the gate shut?' Walk along a residential city street after nightfall and the gates are shut. The barriers are up. The last make-believe of security has been ensured.

How many, many garden doors and gates there must be in the country! It is a figure that can never have been calculated, but it would surely be a statistician's heaven to calculate how far they would stretch laid end to end. And at a rough guess nine out of ten are rather ugly, which, when we reflect that handsome doors and gates cost no more than ugly ones, is a pity.

Ironwork, as boundary or as gate, was once restricted almost entirely to great houses and their gardens. It is said to have been of a very poor quality and design, but when William and Mary came to the throne what was called the Dutch style began to have its effect on garden design and ornamentation, and in the Dutch style ornamental ironwork played an important part. In 1689 a Frenchman named Jean Tijou arrived in England. He was famous as a designer in ironwork. Much of his work was used in the interiors of such mansions as Hampton Court, Chatsworth, and Kimbolton where it was used on staircases. Then some was used outside in balconies, and then in gates. The magnificent wrought-iron gates designed by Tijou, often painted in flamboyant colours, and richly gilded, it is claimed, have never been surpassed.

From that time wrought-iron gates became a feature of nearly all the great houses. They are not something of the past for they can be seen today. There is hardly a famous showplace without some to be seen, though not all are as fine as the gates made by the brothers Robert and John Davies of Wrexham for the entrance to the park of Chirk Castle, or those made by the same craftsmen in 1720 which Elihu Yale gave to Wrexham Church.

Anything that has been fashionable in great houses and great gardens has usually been copied and adapted for use in smaller ones. Gates as entrances to small gardens had their period of popularity, but over recent years as smithies closed (following the ousting of the farm-horse by the tractor) and the smith's craft declined there were few men left who bothered to fashion wrought iron any more. Of recent years this tendency has been reversed, and there seem to be more blacksmiths today who can make (at quite a reasonable price) a wrought-iron gate, or a pair of them, than there have been for a long time, and the gates are increasing in popularity again. Mass-produced gates, which are cheaper still, are on the market, and though few can compare with the best work of two centuries ago, or, in view of their size and magnificence would aspire to, there are really very few that are unpleasing or of poor design, and the majority of firms selling gates can be dealt with in perfect confidence.

A garden cannot but gain by being viewed for the first time through the filigree of a good pair of iron gates.

Gates look best in their own frame, which means a complete gateway around and over them. A wooden gate or gates, or door, seem better able to stand alone. If wooden gates are to be wide and heavy, then some professional help in making and erecting them is strongly advised. Where they are light they can well be home-made—such as the simple pair in Pl. XVI. As for a frame, if you have a cottage and a cottage garden and a cottage gate, by all means have an archway over it with honeysuckle or clematis or roses or any other climbers.

For the severer type of entrance the doors are their own best ornament. At the gate of some of the older churchyards you can still see the lych-gate, the roofed shelter designed, so antiquarians say, to shelter priest and coffin

where they met at country funerals. A few gardeners have copied these in style, and, built simply, they can look very pleasing, but generally, they are imitations that do not (and who would wish otherwise) serve the purpose they were planned for, and are mentioned here rather as a reminder of what can be done than as a recommendation that it should be.

It is so easy in a book of this kind to press one's own views too hard. You must have this . . . you must not have that . . . something else is in bad taste . . .

I am reminded of an old friend who had a rather loathsome stone toad glaring up pessimistically from the edge of his garden pool.

'Do you really *like* this creature?' I asked.

'Seems so, doesn't it?' he said curtly.

'Why?' I asked.

'He's somebody to talk to.'

'I hope you get intelligent replies to your remarks,' I scoffed.

He gave me a meaning look. 'At least he doesn't ask me a lot of blistering silly questions.'

I felt he'd won.

So there it is. If you want a stone toad in your garden—or anything else under the sun—if *you want it* . . . have it.

It's *your* garden.

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